United States Department of the Interior

NATIONAL PARK SERVICE

Klondike Gold Rush National Historical Park
P.O. Box 517
Skagway, Alaska 99840

Aviation Management Plan

Approved by _____ _____
Signature Date

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INTRODUCTION

Aviation is the leading cause of occupational fatalities in the State of Alaska, the following is an excerpt from the Regional Director's letter on aviation safety that sets the standard on how the Alaska Region of the National Park Service manages and conducts aviation operations.

> "Aviation is the most hazardous activity that we ask our employees to participate in on a regular basis. Aviation accidents are an unacceptable cost of doing business in Alaska. We can and must do better a better job of managing the risks to our employees. We can do this by limiting exposure to high-risk environments, ensuring compliance with policy, ensuring that employees have the appropriate level of training, and by fighting against distraction, fatigue and complacency.

Supervisors must be prepared to say "no" to requests that may exceed aircraft and crewmember capabilities. These risk decisions should be made above the operator level whenever possible. Although pilots in command have the ultimate authority to refuse unreasonable requests, pilots are very mission-oriented. We must realize that there are many pressures on these individuals to try and accomplish every mission.

Remind employees that they have the authority to stop any aviation activity that violates agency policy and direction, exhibits unacceptable risk, or jeopardizes the safety of the public or our employees. All personnel have the right and responsibility to refuse to begin any flight, or request termination of any flight, which is unsafe, does not meet NPS minimums, or which makes them feel uncomfortable. Employees are **required** to report any unsafe operations to their supervisor. "

SCOPE

This plan applies to flight services **other than** those acquired on a "seat-fare" basis from commercial air carriers (e.g., Skagway Air Service, Alaska Airlines, Wings of Alaska, etc.) operating regularly scheduled flights. Because NPS is responsible for aircrew members and passengers on board aircraft under its operational control, this plan is applicable to NPS employees, NPS volunteers, persons supervised by NPS employees, and support service contractors (all hereinafter referred to as NPS employees. Persons employed by, and whose work is directed solely by, cooperators or contractors are exempt from provisions of this handbook except when their duties include the use of flight services under the operational control of the NPS. In that event, such persons will be subject to the policies and procedures contained herein.

PURPOSE

This plan provides guidelines for federal aviation operations related to the management and staff of Klondike Gold Rush National Historical Park (KLGO) and includes the following:

- A statement of Park Aviation Management policies and procedures which are specific to KLGO.
- A guide for Park personnel when incorporating aviation resources in their programs.
- A reference to help users understand how NPS aviation operations are managed.
- This plan is subordinate to, and must be consistent with, policies, procedures and instructions issued by the Federal Aviation Administration (FAA), the Department of the Interior (DOI) and its Office of Aircraft Services (OAS), the federal Interagency Helicopter Operations Guide (IHOG), NPS Director's Order (DO) #60 and accompanying Reference Manual (RM) #60, and NPS Alaska Regional aviation policies.

Policy

NPS Policy:

The 2001 National Park Service Management Policies state:

"Aviation is a necessary and acceptable management tool in some parks when used in a manner consistent with the NPS mission. Aviation activities will comply with all applicable policies and regulations issued by the Department of the Interior Office of Aircraft Services, the FAA, and the NPS. In its administrative use of aircraft, the Service will:

· Use, to the maximum extent possible, the quietest aircraft available for its aviation operations.
· **Limit official use of flights over parks to those needed to support or carry out emergency operations or essential management activities in cases where there are no practical alternatives or when alternative methods would be unreasonable.** Full consideration will be given to safety; wilderness management implications; impacts on resources, values, or visitors; impacts on other administrative activities; and overall cost-effectiveness.
· **Plan, schedule, and consolidate flights to avoid or minimize adverse impacts on park resources and values and visitor enjoyment.**" (emphasis added)

Department of the Interior (DOI), Office of Aircraft Services (OAS) and Federal Aviation Administration (FAA) policies and regulations are in effect anytime helicopters are chartered or rented by the NPS, and/or when NPS employees are utilizing helicopters or fixed-wing aircraft for agency missions (area reconnaissance, transporting persons or delivering cargo, etc.; ref. DO/RM-60 and 350-354 DM).

Management Responsibilities

Park Superintendent:

The Superintendent shall ensure that aviation activities are conducted in compliance with applicable policies/directives. This includes aviation program planning, program development, accomplishment of required aviation training appropriate to the position, promoting the use of the Aviation Mishap Information and Safecom system, flight and training records are maintained, and the evaluation, mitigation, and approval of safety hazards associated with aviation missions.

Park Aviation Manager:

The Chief Ranger oversees all facets of aviation operations in the park. This includes use of aircraft for official purposes, concession and other air taxi operations, and ground and aviation support facilities within the boundaries of the park. Normally the Chief Ranger also fulfills the role of Park Aviation Manager, during which (s)he performs the day to day management of the park aviation/aircraft program and oversees use of aircraft for official purposes. Assists in procuring aircraft services, and coordinates flights when two or more projects are simultaneously taking place. The Chief Park Ranger is responsible for establishing and implementing the park aviation safety program, and serves as a liaison between the park, regional aviation staff, Flight Coordination Center, and OAS. Is directly responsible to insure that flight following, risk management, and personal protective equipment polices are complied with. Sees that appropriate operational and safety training are provided to other park employees.

Dispatcher(s):

Responsible for receiving, opening and closing flight plans. Maintains a log of flight following information received via radio from pilots and/or passengers. Dispatchers are primarily responsible for recognizing situations where aircraft are overdue and for initiating appropriate steps to locate such aircraft. This role is normally assumed by the Helicopter Project Manager or Park Aviation Manager during local flight following operations, but may be requested of Denali Dispatch.

Helicopter Project Manager:

Manages heliport at remote sites and oversees helicopter uses for **special projects**. Is the liaison between the contractor's representative (usually the Temsco helicopter pilot) and NPS management. Assumes responsibilities for the aviation safety program within the scope of the specific project. This role may be filled by either ranger or maintenance staff when qualifying training requirements outlined in DO/RM-60 are met. A helicopter project manager must be assigned to all special use flights.

Helicopter Flight Manager:

In accordance with the DO/RM-60 may supervise non-recurring missions limited to transport of personnel from improved sites, high and low level reconnaissance, and landings/takeoffs at unimproved sites. This position may not supervise any recurring helicopter operations or any special use helicopter operations. Note: All helicopter operations in Alaska are considered Special Use. This role may be fulfilled by Park Program Managers when qualifying training requirements outlined in the DO/RM-60 are met.

All Employees:

Employees must ensure that both the pilot and aircraft have been approved to conduct flight operations for DOI work by reviewing the pilot's USDOI Pilot Qualifications Card (OAS-30A/B/C) and that he/she is approved for the mission being performed. If the aircraft is approved, an OAS-36A/B/C Interagency Data card will be kept in the aircraft at all times. Be sure cards match pilot and aircraft.

Qualifications/Training:

Minimum qualifications training requirements for the roles outlined above are as detailed in the DO/RM-60.

Dispatching and Controlling Flights:

NPS Administrative Operations

1. Requests for flight operations will be initiated by supervisors using the flight request form (OAS-91) found in Appendix 1 of this Plan. The form will be submitted to the Chief Ranger for review and approval prior to confirming any plans with the contractor or helicopter project managers.

2. Landings within the park will preferentially utilize one of a limited number of NPS administrative use heli-spots: Canyon City Trail Crew Camp (constructed platform), Sheep Camp Ranger Station (constructed platform), Canyon City old town site (maintained clearing), Chilkoot Pass

Radio Repeater site (unimproved above treeline). *Project specific* sites for the long-line retrieval or placement of cargo (without aircraft landing) may also be utilized with advance approval. Other heli-spots for landing may be utilized on an "as-needed" basis to accommodate emergency situations and other official park business only if deemed to be mission-critical and continue to meet safe operating limitations. There are no designated heli-bases in the park. Local contract services for passengers and cargo routinely originate at a corporate heli-base outside the park in Skagway and/or at the Skagway Airport.

3. All flight operations (non-seat fare) will be ordered/coordinated through the Park Aviation Manager. A project or flight manager. as appropriate, will be identified for each flight with specific responsibilities to include ensuring the use of appropriate Personal Protective Equipment, flight following, OAS certification checks, flight planning, and passenger/load manifesting (in cooperation with the pilot) and cargo preparation.

4. Between the dates of June 1 and September 1 (summer high season) there will be no routine helicopter operations without the special approval of the superintendent. This includes landings, long-line placement/retrieval of cargo, low level flights (under 1,000 feet above ground elevation), and other operations that would be potentially invasive to wildlife and humans in the Chilkoot Trail and White Pass Units of the park.
   Routine shipments of food, propane, maintenance and construction equipment and materials, camping equipment, first aid supplies, and other necessary items will not be flown to or from backcountry locations during this time unless mission parameters dictate otherwise (e.g. access to repeater site dependent upon snow cover sufficiently melted out). During the summer high season employees assigned to backcountry locations will be required to carry food and personal items for cooking, camping, and for backcountry operations when hiking to/from duty stations.

5. Emergency operations necessitated by illness or injury, natural disaster, or other unforeseen events are exempt from the requirements outlined in section 3. (Immediately above).
   Emergency Transports are those flights in which a helicopter is used to transport an injured or ill person out of the park backcountry. This service may be either a medical evacuation or a transport. (See Emergency Section.)
   The National Park Service will coordinate through Skagway Emergency Services all emergency transport flights within the park.
   The beneficiary of an Emergency Transport helicopter flight is responsible for paying all costs associated with the flight. These costs are paid directly to the provider of the service.

6. Operations requiring a waiver of any of the park specific conditions outlined in this plan must be approved in advance by the superintendent. Requests for waiver must articulate the mission specific nature of the requested helicopter use, including alternatives that were considered and why they were rejected.

7. When waivers for summer season flight operations have been approved, affected parties will be notified at least two days in advance of the approved flight. NPS personnel at the Dyea Ranger Station, Canyon City Trail Crew Camp, the Sheep Camp Ranger Station, the Trail Center, and the NPS Visitor Center in Skagway are to be informed of the anticipated dates and times of flights. During the summer season, the public will be notified by Trail Center personnel when issuing backcountry use permits. Parks Canada operations staff in the Trail Center and in the Chilkoot Trail National Historic Site of Canada, will also be notified at least two days in advance. During the shoulder or winter seasons, printed notices will be posted at the Chilkoot trailhead information kiosk and hiker registration board two days in advance of the flight when possible.

Aviation Operations:

Pre-use planning complete (see Appendix 1 and 2)

Upon approval of the flight request (appendix 1), the project manager will utilize the Go-No Go Risk Analysis Tool in Appendix 2 to evaluate equipment condition, verify pilot and machine certifications, and assess potential hazards. A helicopter pre-use checklist is located in Appendix 2.

Aircraft and Pilot Data cards

During the scheduling process, the individual scheduling the aircraft must ensure that the vendor provides approved pilots and aircraft. Aircraft and pilots shall not be scheduled or dispatched unless it is verified that both are approved and current for the mission requested. Note that use of other government agency, military, and civil aircraft requires approval but not necessarily carding.

Initially it is the responsibility of the project manager to verify that the equipment and pilots are carded. This may be done by reference to the agency's vendor source list or direct contact with TEMSCO. The project manager should verify directly with the pilot prior to the project day that both cards are current and appropriate for the mission.

Personal protective equipment

Protective Head Gear

When flying or when working on the ground around operating helicopters, only approved headgear shall be worn as defined in IHOG, chapter 9. Chin straps shall be securely fastened when approaching the helicopter, while in-flight, and upon departing the helicopter. The Pilot must always wear the flight helmet. Ground crew shall wear hard hats when working beneath the helicopter. Flight helmets should always be stored in the designated storage cabinet in the maintenance receiving room and transported only in a green helmet bag.

Hearing Protection

Hearing protection or the flight helmet will be worn at all times when traveling inside or working beneath and around helicopters during a project. Sound barrier ear muffs or earplugs are sufficient, if verbal communications are not necessary.

Eye Protection

Eye protection is required for ground personnel when dusty conditions are present. A flight helmet with the visor down will suffice.

Fire-Resistant Clothing

"Nomex" refers to nomex, polyamide, aramide, polybenzimidazole, Kevlar, or blends thereof. Flight suits and gloves shall consist of these materials only. Nomex suits or approved outerwear will be worn during all special use flights and when working as a crewmember on the ground during the conduct of operations. Nomex must be kept clean and free from guels, grease, oils, and other combustible materials. Nomex may be laundered and tumble dried at temperatures below 180 degrees. Dry cleaning is approved, but **not** starch.

Flight Suits

Nomex flight suits should fit loosely, so as to provide trapped airspace that acts as insulation to provide protection in a fire. The proper size flight suit covers the maximum area of skin. Sleeves should reach to the first knuckle on the thumb, before it is snuggly secured over the flight glove at the wrist. Bottoms should completely cover the top of the boots when in a seated position. The collar should cover high on the neck.

Shirt/Trousers Combination

The use of wildland firefighter nomex shirt and trousers are authorized. Skin coverage should be consistent with the flight suit. When wearing two piece attire, the shirt will be tucked into the trousers.

Hand Protection

Flight gloves are constructed of a soft leather palm and stretchable Nomex fabric for the back. The glove extends several inches above the wrist to provide total coverage when the Nomex flight suit or shirt sleeve is properly worn. Unlike the flight suit, the gloves should fit snuggly to provide for maximum dexterity of the wearer. All leather gloves, without synthetic liners, are also approved if they provide wrist coverage and allow the finger dexterity required for the tasks assigned the wearer. Gloves should be free of holes, tears, oils, fuels, and grease. When returning flight suits to storage, gloves should always be stowed in one of the suit pockets.

Outerwear Garments

Nomex coats, bibs, etc.. worn over the flight suit are recommended, but not required during cold-weather flight activities. Outerwear Nomex is not a substitute for the flight suit. Suitable substitutes include natural fibers, such as fire-resistant cotton blends, or natural fibers (cotton, wool, or wool/cotton blends).

Undergarments

Underwear and other clothing (uniform) worn under the flight suit provides the best protection, if made of nomex. However, nomex is not required. Fire-resistant blends or natural fibers are acceptable substitutes.

Protective Footgear

Boots must be made of all-leather uppers that come above the ankles. Rubber, nylon, and other synthetic boots will burn and are prohibited. Even partial construction from these materials will melt or burn in a fire, causing severe burns to the feet. Similarly socks should extend above the top of the boot and consist of fire-resistant materials or natural fibers.

In snow or extreme cold the required boot may not be conducive to the working environment and an alternative may be used. The supervisor should inform the employee (in writing) of the increased personal risk associated with these types of boots in the event of a post-mishap flash fire.

Exceptions to PPE

- Overwater Flights

The requirement for fire-resistant clothing and boots is waived for overwater flights made beyond gliding distance. Anti exposure suits or personal flotation devices must be worn in these cases. Since most of our special use flights use helicopters, which have no viable gliding distance, and travel for a brief time over water, all flight occupants shall wear a nomex inflatable flight vest with personal epirb and survival items.

- Law Enforcement

  For non-tactical missions standard PPE requirements apply. For Tactical operations, the Senior Law Enforcement Official will assess the associated risks and prescribe an approved PPE for the specific LE mission at hand.

- Application of Chemicals

  Nomex is not required for ground personnel involved in aerial application of chemicals. Otherwise, OSHA regulations require specific PPE for chemical spray and must be followed.

- Snow/Cold Weather Winter Conditions (October 15 – May1)

  A PPE waiver has been issued for aviation missions conducted in environmental conditions in which the required personal protective equipment does not provide adequate protection to prevent cold related injuries. This waiver applies to the PPE requirements for fire resistant clothing, all-leather, or leather and nomex gloves and leather boots. (Appendix 10)

  A PPE waiver for "all" leather boots for all aviation missions conducted in environmental conditions in which the required personal protective equipment does not provide adequate protection from the work environment. Substitute footwear will be appropriate to the work environment and be at least ankle high.

  Changing into appropriate clothing after arriving at the field destination will be the preferred option. For some winter flights, the employee may elect to wear fire resistant clothing close to the skin or natural fibers underneath the fire resistant layer. Each individual employee will be allowed to make an informed personal choice for waiving the required PPE.

- KLGO Remote Project Site Nomex Exception

  Due to the remote nature of the project sites along the Chilkoot Trail and the fact that all gear necessary for the project will be carried to the project site by the ground crew, mandator PPE will include helmets with chinstrap, gloves, goggles, and hearing protection. A justification statement can be included in the Flight Plan document to explain that at no time will ground crew personnel be flying as passengers on-board the helicopter throughout the project period. When possible the pilot will be using an auto-release remote hook. Nomex will not be required for ground crews at remote locations.

Survival Equipment and Over water Flotation

It is the responsibility of the Helicopter Manager for each flight to ensure the proper and adequate survival equipment for the planned mission is aboard and available for all crew members and passengers. While each TEMSCO helicopter is stocked with an adequate first aid kit, it is

recommended that each occupant carry a personal first aid supply. Personal inflatable survival vests will be worn by all NPS employee passengers during special use flights. In addition to the epirb and survival items located in each inflatable survival vest, a fully stocked survival day pack is maintained in Ranger Storage and should be included on special use flights.

A list of suggested survival items can be found in Appendix 2.

Preflight planning

Load Calculations/Performance

During passenger transport operations, load calculations shall be performed prior to any flight activity in accordance with procedures outlined in IHOG, chapter 7 and Appendix 2. During cargo transport operations, load calculations shall be performed prior to any flight activity. Weight of cargo is usually indicated either on the load calculation for or, if manifesting multiple trips under one load calculation, on the manifest form.

Only one calculation is necessary between points of similar elevation, temperature, and fuel load, provided the load for each flight leg is manifested. A new load calculation is required when there is a change of:

- +/- 5 degrees Celcius, or
- +/- 1,000 feet change of altitude, or
- +/- change in Operating Weight, such as changes to the helicopter equipped weight, changes in flight crew weight or an increase of more than five gallons in fuel load.

The Pilot is ultimately responsible for completing the load calculation form correctly, using proper performance charts, computing the allowable payload, and checking subsequent passenger/cargo manifested weights completed under the initial load calculation to ensure allowable payloads are not exceeded.

Flight following

Flight following is the knowledge of the aircraft location and condition with a reasonable degree of certainty such that, in the event of mishap, those on board may be rescued. The purposes of flight following and resource tracking procedures are to :

- Ensure the safety and welfare of flight crew and passengers
- Perform resource tracking to promote effective utilization of aircraft
- Provide information for the administrative processing of aviation-related documents.

The primary function of flight-following is the responsibility of the park helicopter manager. All helicopter activity at KLGO is Special Use classified and therefore Automated Flight Following will be utilized on all helicopter flights and projects. For the large majority of our special use flight operations, the helicopter never travels beyond radio contact distance with the TEMSCO base. As a back-up flight-following source and to better follow mission progress, NPS ground staff at base and remote locations will utilize radio traffic to track the progress of helicopter landings and departures and cargo drops for their respective locale. The short distance nature of our cargo and passenger hauls means that there is rarely more than a 15 minute break in radio traffic between ground crew and pilot.

NPS contracted vendor flights exceeding 1.5 hours in transit must have AFF or check in on an **hourly** basis with NPS or FAA; pilot's choice. If no NPS employees are on-board a vendor can simply comply with the contract stipulations.

Communications

It is important that a line of communications be established and maintained throughout the aviation and dispatch organizations. Communications at all levels should be encouraged to resolve situations before they become a problem.

The Helicopter Manager is responsible for briefing all project personnel on the primary radio channels utilized for mission flights between NPS employees and the park pilot and between ground base and remote stations. The Pilot will use aircraft and TEMSCO frequencies for general flight-following and communicating with other aircraft in the area.

For most communications between Pilot and NPS staff channel 1 (frequencies; Rx 166.3 and Tx 166.3) will be used. These communications will only be available when aircraft is approximately within sight distance from the ground crew. Helicopter manager shall inquire with Pilot prior to mission briefing as to whether channel 2 and 3 frequencies will be programmed into the aircraft.

During the mission operations general park radio traffic will be restricted to essential communications.

Pilot Duty Limitations

By in large the nature of our aviation projects and the use of TEMSCO pilots minimize the concern about Pilot Duty Limitations. Still, the Helicopter Project Manager should be informed of the Pilots duty hours leading up to the day of the project. A maximum of 42 hours flight time may be flown during any consecutive six-day period. When a pilot acquires 36 or more flight hours in a consecutive six-day period, the pilot will be given the following 24-hour period off duty for rest. Following any mandatory rest period, a new six day cycle begins.

Operations

Mission Briefing

All NPS staff involved with the project operations will receive a Mission-Critical briefing prior to commencement of flight operations. At this briefing, the helicopter manager will use the Project Aviation Safety Plan and other manifests to brief passengers and ground crew on the flight plan, cargo load schedules, crew roles and responsibilities, and the tracking of operations hardware and equipment. A sample PASP can be found in Appendix 3.

Once manifesting has been completed, the safety briefing can be accomplished. Briefings shall be given to every passenger prior to entering the safety circle to board the helicopter. This briefing should follow the format shown in Appendix 2. The safety briefing may be given by the Pilot or as delegated by the Pilot to authorized and qualified personnel, such as the Helicopter Manager, Aviation Flight Manager, or Loadmaster. In-flight emergency procedures briefing shall be included.

Local Area Hazards

Largely, the project areas within the park have few man-made hazards to contend with. The largest hazards that pilots and managers should be aware of include:

- Regular and varied air turbulence in the vicinity between Sheep Camp and the Chilkoot Pass.

- Encroaching vegetation canopies near undeveloped landing sites and long-line lowering areas.

- Fluctuating river levels and drift debris at seasonal "dry" river bed landing sites.

- Hiker presence along the Chilkoot Trail.

- Soft and rotten snow under surface of potential snow landing sites during early season and irregular/unstable boulders in the vicinity of landing sites between Sheep Camp and the Chilkoot Pass later in the season.

- Avalanche is a potential hazard in some snow landing sites in the area of Scales and "Monument" until mid July.

Probably the greatest project hazards exist at or near the helibase along the waterfront of Skagway (Appendix 4). A number of aerial and ground hazards demand complete pilot focus to minimize the potential for disaster at take-offs and approaches to landings. The helibase and staging area for most sling operations is at the south end of the Skagway airport runway in near direct line with approach and take-off patterns of other aircraft. Just north of the helibase in Skagway is the Petro-Marine Fuel tank "farm". Just east of the helibase and staging area is an established dock for mainline cruise-ship dockings. To minimize the potential hazards of these sites, project manager(s) should try to schedule sling operations on days that a cruise ship is not tied to the ore dock. In addition, during lift-off and landing ground crew should not attempt to communicate with the pilot, except when necessary to avoid a mishap or hazard.

Local Area no flight areas

Pilot Briefing

The local TEMSCO pilots are well-versed in the approach and departure restrictions surrounding local air traffic in Skagway. Probably the most likely no flight area that will affect the park's special use projects will be affected by the international border with Canada. On occasion a special use project may take the pilot and staff near or across the international border for official purposes. Before entering international airspace TEMSCO must clear the flight with Canada Customs at Fraser. Due to the specific identification requirements for aircraft and pilot, TEMSCO has established procedures for gaining customs authorization and will retain primary responsibility for making this contact. The Project Manager will be responsible for getting patient and passenger identification information to TEMSCO prior to this call for authorization.

Congested Areas

See FAR 91.119 and the Interagency Airspace Coordination Guide.

Off Airport Operations

There are no approved landing areas within the park for fixed wing aircraft. Consider the factors addressed in Appendix 5 when selecting a landing area for helicopter projects. Landing Area Selection (Appendix 5)

Snow Landings

Depth perception on snow and glacial ice is often poor. It is important to clearly mark the landing site with objects of contrasting color. To reduce blowing snow, tramp the area thoroughly inside the safety circle.

If surfaces are icy, avoid locations that are over 6 degrees (9:1) slope. Choose a site large enough and flat enough to keep main and tail rotors from striking ice pinnacles

or pressure ridges. Test the surface and load-bearing capability of the touchdown pad area to avoid snow bridges, thinly covered crevasses, crusts, and cornices.

It is the Pilot's responsibility to determine if a landing can be safely made in snow conditions, with or without snow pads.

Mission Flights

When planning for any mission flight the project manager should ensure that the pilot is aware of aerial hazards as depicted on the hazards planning map in appendix 4. For point to point flights the pilot must stay above 500 feet AGL (above ground level). For mission flights the pilot should stay above 500 feet AGL, except when the mission requires low level surveys, hovers, and lowering or dropping of external loads. Pilot should conduct a high-level reconnaissance before descending below 500 feet AGL at the start of each project.

Aerial Capture, Eradication, and Tagging of Animals (ACETA Operations)

ACETA operations require specialized training and qualifications for pilot and crew. For qualifications and responsibilities see IHOG chapter 2 section G. Generally speaking, due to the nature of the terrain, vegetative covering, and wildlife populations at KLGO, ACETA operations are not practicle .

Fire

IHOG guidance specializes in fire suppression operations. The use of helicopter for fire suppression efforts at KLGO is infrequent and may or may not be ordered and management by NPS or the state of Alaska depending upon the jurisdiction of the fire within the park boundaries. If the fire ocurrs on state own land, the helicopter will be ordered and personnel managed by the state (probably via Skagway Fire Department). For state ordered helicopter projects, NPS personnel may only participate in fire aviation activities, if the pilot and machine are appropriately carded by OAS for transport of personnel and fire suppression.

Before participating in fire suppression efforts, NPS employees must meet National Wildland Fire Training qualifications. TEMSCO may maintain pilots and machines certified for bucket drops and other fire suppression efforts. Project Managers should be familiar with the mission type qualifications of OAS certified pilots before an emergency hits.

Hazardous Materials

Hazardous materials are substances that are identified, classified, and regulated in the Code of Federal Regulations, Title 49 and Hazardous Materials Regulations 175. A hazardous material is a substance or material that has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.

A complete list of hazardous materials is contained in 49 CFR 172.101, Dept. of Transportation, Hazardous Materials Table. A list of commonly-transported hazardous materials is located in the Haz. Mat. Manifest in Appendix 6.

The transportation of hazardous materials on all park flights will be in accordance with the Interagency Hazmat Guide and the DOT Special Permit.

All personnel and crew who may handle hazardous materials during a project must have proper training in the handling of hazardous materials. Personnel who engage in the transport of hazardous materials via aircraft must have a copy of the agency direction in their possession. This includes vendors whose helicopters carry hazardous materials. The HazMat Guide, Emergency Response Guide, and Special Use Permit must be on board the aircraft at all times.

Flight Restrictions

In order to safely and successfully complete the mission, the helicopter must be capable of meeting the performance required. Payload, hover ceiling, airspeed, and fuel requirements need to be considered in selecting the proper aircraft. At the beginning of each project, the project manager should review the load calculation for the aircraft being used with the pilot. Due to the consistent nature of our helicopter projects in and around Skagway, the project manager and pilot may use this load calculation for multiple flights throughout the project, if there is no significant change in altitudes or air temperatures during the project period. A sample load calculation form and additional wind limitations can be found in appendix 2.

Day Visual Flight Rules (VFR) Only: Except for reasons of life-or-death emergency, single-engine helicopters shall be limited to flight during daylight hours only and only under VFR conditions (minimum ½ mile visibility). Daylight hours are defined as 30 minutes before official sunrise until 30 minutes after official sunset, or during extended twilight hours when the terrain features are readily distinguishable for a distance of at least one mile.

Wind Restrictions: If not restricted further by the helicopter flight manual or pilot, the following limitations will be used:

- Flights more than 500' AGL are allowed in winds up to 50 knots for all types of helicopters.
- Below 500' AGL steady winds shall not exceed 30 knots, or a maximum gust spread of 15 knots.

Emergency Flights

The principles and procedures of risk management and analysis outlined in Chapter 3 of IHOG shall be applied to any decision regarding conducting a nighttime emergency operation or those conducted in adverse conditions of fog, mountainous terrain, high wind, etc… Under emergency operation, final authority for the safety of the flight is a decision of the Pilot.

Search and Rescue / Medical Evacuations

It is recognized that in emergency situations landing areas may not always meet minimum standards. Nevertheless, particular care should be exercised in selecting landing sites for emergency operations. Considerations for landing site selection can be found in appendix 5 and additional guidance for conducting one-skid, toe-in, or step-out landings is contained in Chapter 8 of IHOG.

Refer to Chapter 9, IHOG, Requirements and Maintenance, for standard requirements and procedures.

- Exemptions from agency aviation PPE requirements shall be used only in emergency situations or where otherwise authorized in Alaska. These generally apply to the use of alternative PPE for extreme environmental conditions or complete waivers of use of PPE

when not available and the involvement of NPS personnel as passengers is essential for the completion of the emergency mission.

- Emergency personnel or team leaders should wear high visibility survival vests on the ground for ease of locating.

It is recognized that during emergency search and rescue operations all requirements may not be able to be met. Nevertheless, care should be exercised to prevent additional injury and/or loss of life.

Medical Transport of Patients

- Use the most qualified medical attendant; ie: EMT B or higher
- Secure Oxygen tanks, preferably in a horizontal position
- Carry latex gloves for protection from patient body fluids and blood-borne pathogens
- Secure patients to the litter, then secure the litter inside the helicopter
- If injuries would be aggravated by use of PPE or the time involved in clothing the patient in PPE, then PPE requirements are exempt.

Note: The policy at KLGO is to coordinate helicopter medical evacuations through the Skagway Police Dispatch. Local EMS personnel will respond and accompany the patient in the helicopter as necessary. Except in extenuating circumstances, NPS personnel will generally not be a passenger in the helicopter during medical evacuations. If NPS personnel are involved as passengers, efforts should be made to provide appropriate PPE for the employee when possible. If the machine or pilot is not OAS carded, NPS personnel must not get onboard, except in life or death emergencies where the employees' presence is necessary or leaving the employee behind would place them or others in jeopardy.

All canines shall be either muzzled and secured to a hard point or contained in a restrained portable carrier. Canines shall be transported in the rear of the helicopter and accompanied by a trained handler. It is the policy of KLGO to not conduct emergency helicopter operations for the search or transport of pets.

Wild Land Fire

See previous section – Mission Flights.

Law Enforcement Emergencies

Law enforcement aviation operations on occasion have special needs. The carriage of weapons or canines on board is an example. Some missions are conducted in a higher-than-normal risk environment where the hazards on the ground from potential gunfire and apprehending suspects may be greater than, or compound, the hazards associated with the aviation mission.

The leader of each law enforcement mission shall implement the rapid risk assessment and management techniques discussed in IHOG, chapt. 3. Specialized law enforcement aviation operations are often conducted in coordination with other agency law enforcement personnel and aircraft. They may include:

- Counter-narcotics operations
- Surveillance of suspects or locations
- Warrant service

- Reconnaissance
- Fire Investigation
- Seizure and removal of evidence, contraband, and other property

Operations must emphasize safety requirements and considerations. All law enforcement personnel shall adhere to all agency policy except those involved in operations defined as covert, where agency policy allows.

Authorization shall be given on a case-by-case basis by the Senior Law Enforcement Officer. A written justification statement shall be prepared by the law enforcement officer in charge, attached to a Safecom report (Appendix 10), and submitted to the Aviation Manager within 24 hours of the completion of the mission.

Exemptions from aviation PPE requirements shall be used only in emergency situations when the hazards on the ground (for example, from gunfire) are greater than those requiring the use of aviation PPE.

Transport of Injured Officers

Prior to transporting an officer with serious injuries, all weapons being carried by the injured officer shall be secured by another law enforcement officer.

Transport of Prisoners

- Brief the pilot on the prisoner, the nature of the crimes and the extent of safety precautions used while transporting a prisoner. Brief the prisoner on aircraft safety using the standard briefing format for all passengers.
- Search the prisoner for weapons even if the prisoner has been previously searched.
- Handcuff the prisoner using standard law enforcement policy and procedures. If the prisoner is to be handcuffed in front, ensure that a belly chain or other suitable device is used.
- Seat and restrain prisoners in the rear of the aircraft opposite the Pilot with the law enforcement officer sitting next to the prisoner. It is not advisable to seat a prisoner where the prisoner has access to the Pilot or controls.
- Law enforcement officers at the receiving landing area should be briefed and available for pickup and transportation of the prisoner.

Note: For most crimes warranting arrest, it is the policy of KLGO to turn the prisoner over to the State (ie: Skaway Police or State Troopers) to transport and process on state felony charges.

Transport of Evidence

Transportation of evidence should follow park evidence handling guidelines.

Hazardous Materials

Weapons: When law enforcement personnel carry firearms in the helicopter, the following precautions should be taken:

- Brief pilots on weapon type(s) and safety policy.
- Long guns (shotguns, rifles, etc.) shall not have a round in the chamber and shall be under the control of the law enforcement officer.
- Hand guns may be loaded and shall be holstered.
- Fully automatic weapons shall have an empty chamber and the bolt locked in safe position.
- Keep all weapons pointed in a safe direction as determined by the Pilot during the preflight briefing.
- Emergency situations may necessitate carrying weapons with a round chambered. This shall be determined by the law enforcement officer in charge in consultation with the Pilot, and shall follow agency guidelines and requirements.

Pyrotechnic Devices: Follow safety procedures in Aviation Transportation of Hazardous Material Handbook.

Hazardous Chemicals:

- Brief Pilots on material and safety policy
- All clandestine laboratory paraphernalia shall be transported under the direction of a designated hazardous materials response team.
- The carriage of O.C. and other gases shall conform to transport requirements found in the agency Hazardous Materials Handbook or RM 9.

Special Use Missions:

Any operation which requires special considerations due to the functional use of the aircraft are considered special use flights. This may require deviation from normal operating practices where authorized by the agency. Special Pilot qualifications and techniques, special aircraft equipment, and personal protective equipment are required to enhance the safe transportation of personnel and property. A helicopter manager will be assigned to all special use flights.

Mission flights are defined by exclusion as all flights not meeting definition of "point to point" flight. As such, mission flights require work to be performed in the air (for example, retardant or water delivery, reconnaissance, etc.) or through a combination of ground and aerial work (for example, delivery of personnel and/or cargo from helibases to helispots or unimproved landing sites, rapelling or cargo letdown, horse herding, etc…) Mission flights inherently require greater planning due to the greater number of hazards and consequent higher degree of risk commonly involved in non-point to point flights.

Practically speaking any NPS chartered helicopter or fixed-wing flight for the purposes of carrying out a mission within or near the park will be considered a special use flight. If a flight is chartered by a partnering agency and NPS personnel will be onboard, the flight is considered a special use flight, pilot and aircraft AMD certifications must be current and NPS passengers must wear the appropriate PPE.

Regularly scheduled "point to point" commercial air commuters that transport passengers from a developed airbase to a developed airbase are not classified as special use flights; ie: Skagway Air, Wings of Alaska, and LAB scheduled flights. "Point to point" flights are considered to be general use flights and do not require the special use of PPE or AMD qualifications for pilot and aircraft.

Special use flights include the following flight missions:

- Flights conducted within 500 feet of the surface
- Water or retardant application
- Parachute delivery of personnel or cargo (not usually performed utilizing helicopters)
- Aerial ignition activities
- Air tanker Coordinator operations (not usually performed utilizing helicopters)
- External Loads
- Night Vision Goggle operations
- Hoversite/Autosurvey
- Rappelling
- Short Haul
- Aerial Capture, Eradication, and Tagging of Animals (ACETA)
- Offshore vessel or platform landings
- Toe-in, single-skid and step-out landings (prior authorization or exemption required)
- Takeoff or landing requiring special tecniques due to hazardous terrain, obstacles, pinnacles, or surface conditions.
- All Helicopter flights; internal and external

SES Flights:

OMB Circular A-126 **requires** the Solicitor or his principal deputy to authorize all travel on government aircraft by employees above GS-15, members of their families, members of Congress, and non-federal travelers (This does not apply to mission flights with non-federal travelers who meet the official passenger requirements of 350 DM1).

An outline of the approval process and the paperwork required can be found at the OAS website at the following web address; http://www.oas.gov/library/index.htm under the heading Senior Executive Service Flights.

Emergency Procedures:

All employees are responsible for the safe accomplishment of the project mission. Always communicate unsafe observations and actions to the project manager before they become an emergency. Any employee can put a halt to operations, if they feel that a hazard exists that could jeopardize safety to persons. All staff will be briefed on operational safety prior to the mission. Appropriate PPE will be worn at all times and flight paths and landing zones will be maintained according to specified standards in IHOG. Appropriated sized fire extinginguishers and prepared medical kits will be maintained on ship and at landing zones.

See Appendix 7 for aviation emergency response procedures.

Use of Cooperator Aircraft:

There may be occasion where NPS personnel will be invited to be passengers onboard cooperator aircraft for other agencies in the completion of a project. Where authorized by supervisor, the employee must adhere to AMD requirements and guidelines as described in this policy, DO/RM 60 and IHOG (ie: Pilot and machine AMD carded qualifications and PPE).

Use of Military Aircraft:

With the exception of authorized special law enforcement and certain kinds of life or death emergency missions NPS employees shall not be passengers onboard of military aircraft. Other exceptions may be considered by the aviation manager should pilot and aircraft have current OAS certifications for the mission at-hand. NPS employees may not request military flight assistance.

Program Evaluation:

The park aviation plan will be reveiwed annually for up-to-date accuracy and completeness. A program evaluation checklist can be found in appendix 8.

Appendix 1

FLIGHT REQUEST FORM (OAS-91)

OAS-91
(05/2012)

ORDER REQUEST FORM FOR DOI FLIGHT SERVICES

Questions - Contact the AQD Contracting Officer (if unknown, call 208-433-5026)

NBC-AQD
TRACKING #

Note: This form should be submitted a minimum of five (5) working days before the planned start date. The OAS-91 form is a multiple page form that must be completed in its entirety to the maximum extent possible to request and fund a project flight request under an existing DOI contract. Complete the radio button and shaded items of page 1 that are applicable and proceed to the page 2/3 Cost Comparison Tab at the bottom of the form. Should the identified IAA Funding Amount(s) shown be insufficient to cover the 'actual total cost' for the services that are incurred the Contractor will not be paid for services until more funding is made available by your bureau. If the total estimate under block 3 of this form is exceeded, the requestor will be required to complete a modification to this request to supplement the order amount before the Contractor can be paid. Failure to complete the form adequately may result in the return of the form to the requestor for additional data before it can be processed.

1. Complete all items in this section.

CURRENT DATE					
NAME OF REQUESTOR		PHONE NUMBER			
AGENCY/UNIT		EMAIL ADDRESS			
AIRCRAFT REPORTING LOCATION:	CITY		PERIOD OF FLIGHT PERFORMANCE	START	
	STATE			END	

BUREAU PROJECT NAME:

MISSION REQUIREMENT: *I.E. Brief description - Helicopter or airplane, recon, point-to-point, initial attack, other special needs, etc.*

2. Select either Original or Modification Request - If modification, enter the original CO issued task order # or OAS-91 tracking # and a reason for the modification request

○	Original Request	Bureau PR #, if used		Bureau Tracking #, if used	
○	Modification Request to previously submitted OAS-91 - NBC-AQD Tracking #, if assigned (All modifications to an OAS-91 must be accompanied by the original OAS-91 or CO issued task order for the OAS-91)				

REASON FOR MODIFICATION - READ before completing: Modifications to previous OAS-91 requests are required only when additional funding is needed to process or complete the original OAS-91 request. I.e. change in aircraft make/model to a higher rate or additional funding is required to finalize the previous action. Items such as cancellations of a previously issued contract order, different Contractor/contract, deobligation of funds, although they may require a modification to the contract do not require a modification to the prior OAS-91. Call the CO if unsure about when an OAS-91 modification is required.

3. Summarize the proposed selection information from page 2/3 of this form that shows the cost comparison accomplished for this request. (Completion of page 2/3 is required for all original requests in excess of $2,500.)

Recommended Contractor		Contract/ARA Number	
Select one:	○ ON CALL ○ ARA (<$25,000) ○ EXCLUSIVE USE		
Aircraft Make/Model		Suggested FAA N Number	
AQD Contracting Officer		Total Estimated Amount	

4. Identify below the inter/intra-agency agreement number(s) (IAA) or (defense users only) the military interdepartmental purchase request (MIPR) number(s) that apply to this request. enter the applicable funding amount.

IAA OR MIPR #	BUREAU CHARGE CODE (at bureau option)	FUNDING AMOUNT

SUBMIT TO: amd91@nbc.gov

Page 1 of 3

Appendix 2

Risk Analysis Chart	Yes	No
Method 1. Is there an alternative method which would accomplish the mission more safely and/or efficiently (including accomplishment by ground methods)? 2. Is the method selected approved and do detailed instructions for safe accomplishment exist? 3. Have adequate flight following and communications methods been established, including AFF?		
Medium 1. Can factors of terrain, altitude, temperature, or weather, which could adversely affect the mission's success, be mitigated? 2. Does cloud ceiling allow for 500' above ground level clearance for sustained flight between project locations? 3. In low level flight, have all known aerial hazards been identified during the planning process and are they known to all participants? 4. If there is a potential for an airspace conflict (military, airport, or sightseeing aircraft), have mitigating measures been taken? 5. Have adequate landing areas and/or drop zones been identified and/or improved to minimum requirements.		
Man (Generic) 1. Is the Pilot properly carded for the mission to be conducted? 2. Will the flight be conducted within the Pilot flight time/duty day requirements and limitations? 3. Have the minimum number of personnel necessary to accomplish the mission safely been assigned, and do they meet personnel qualifications and experience requirements? 4. Will adequate personnel (flight and ground crew) and Pilot briefings be conducted prior to the flight? 5. Are users aware that the Pilot-in-command has final authority over any operations conducted involving the aircraft or it occupants?		
Machine 1. Is the aircraft capable of performing the mission in the environment (altitude, temperature, terrain, and weather) where the operation will be conducted? 2. Is the aircraft properly carded for the intended mission?		

CHART 9-5: RECOMMENDED SURVIVAL KIT - EXTREME ENVIRONMENTAL CONDITIONS

#	WINTER	#	SUMMER
1	Compass	1	Compass
1	Knife	1	Knife
1	Flashlight with 2 extra batteries	1	Flashlight with 2 extra batteries
1	Signal Mirror	1	Signal Mirror
1	Additional Signalling Device (Strobe, Smoke Bomb, Water Dye, etc.)	1	Additional Signalling Device (Strobe, Smoke Bomb, Water Dye, etc.)
1	Box Matches in Waterproof Container	1	Box Matches in Waterproof Container
1	Individual First Aid Kit	1	Individual First Aid Kit
1	40' Length Nylon Rope	1	40' Length Nylon Rope
1	Roll Toilet Paper	1	Roll Toilet Paper
2	Candles	2	Candles
1	50 Gal. Capacity Trash Bag	1	50 Gal. Capacity Trash Bag
4	Quarts Water/Person	4	Quarts Water/Person
1	Water Bag	1	Water Bag
1	Whistle	1	Whistle
1	Handsaw or Wiresaw	1	Handsaw or Wiresaw
1	Collapsible Shovel	1	Collapsible Shovel
6	Meals-Ready-To-Eat (MREs)/Person	4	Meals-Ready-To-Eat (MREs)/Person
1	Survival Manual, Winter	1	Survival Manual, Desert
1	46 pt. IV Tubing	1	46 pt. IV Tubing
1	Bottle Iodine Tablets	1	Bottle Iodine Tablets
1	Arctic Sleeping Bag/2 persons	1	Snakebite Kit
1	Metal Container (for melting snow)	1	Bottle Insect Repellent

12. Weather suitable for mission accomplishment.

Wind Restrictions. (See Chart 6-2.) The capability to fly a helicopter in excessive wind conditions varies considerably with the weight class of the helicopter and the degree of turbulence associated with the wind. If the helicopter flight manual or the helicopter operator's policy does not set lower limits, the following shall be used. These limits may be further restricted at the discretion of the Pilot or other air operations personnel. Limitations are as follows:

A. **Flight Above 500' AGL.** Flights more than 500 feet from the surface are allowed in winds up to 50 knots for all types of helicopters.

B. **Flight Below 500' AGL.**

1. **Type 1 (Heavy) And Type 2 (Medium) Helicopters.** Steady winds shall not exceed 40 knots, or a maximum gust spread of 15 knots.

2. **Type 3 (Light) Helicopters.** Steady winds shall not exceed 30 knots, or a maximum gust spread of 15 knots.

Chart 6-2: Wind Restrictions For Types 1-3 Helicopters

FLIGHT ABOVE GROUND LEVEL	FLIGHT PERMITTED IN WINDS LESS THAN / MAXIMUM GUST SPREAD (in knots)		
	TYPE 1	TYPE 2	TYPE 3
MORE THAN 500' AGL	50 / NA	50 / NA	50 / NA
LESS THAN 500' AGL	40 / 15	40 / 15	30 / 15

. **Snow Operations.** (See Glossary for definition of snow operations.) Snow operations may require special Pilot and aircraft approval and carding. Flights in snow conditions may be accomplished provided the following conditions are met.

A. **Flight.**

- VFR conditions are maintained;
- Turbine helicopters are equipped with snow kits as prescribed by the approved flight manual.

B. **Landings.** If landings are to be made in snow conditions (see Glossary), helicopter must be equipped with snow pads.

PREFLIGHT RESPONSIBILITIES (Pilot-in-Command)

I. Load Calculation/Weight and balance.

INSTRUCTIONS

ITEM

1-15 Pilot completes 1-15. Helitack Captain or Officer completes the balance of the form.

1. **PRESSURE ALTITUDE.** Read altimeter when set to 29.92. **TEMPERATURE.** Record in degrees Celsius from aircraft Outside Air Temperature Gauge.

2. **PRESSURE ALTITUDE.** Use MSL/Elevation from Aeronautical Chart until field elevation is available. **TEMPERATURE.** Record in degrees Celsius using standard lapse rate.

3. **HELICOPTER EQUIPPED WEIGHT.** Empty weight of A/C obtained from A/C weight and balance record. Include weight of accessories and oil.

4. **FLIGHT CREW WEIGHT.** Weight of Pilot(s) and additional crew member (s) plus flight and personal gear.

5. **DEPARTURE FUEL.** AvGas = 6.0 lbs/gal. Jet Fuel = 6.8 lbs/gal.

6. **FOAM.** Foam concentrate = 8.7 lbs/gal.

8. **DESTINATION FUEL.** Subtract en route fuel consumption weight from operating weight to determine destination operating weight (line 14).

9. **COMPUTED MAXIMUM GROSS WEIGHT.** Obtain departure and destination gross weights from appropriate HIGE/HOGE performance charts contained in A/C flight manual. Internal load flights landing in adverse terrain and external load missions will be computed from HOGE performance charts.

10. **WEIGHT REDUCTION.** Enter applicable weight reduction for helicopter model as shown on Weight Reduction Chart. External water/retardant loads that can be safely released do not require downloading at Pilot's discretion.

12. **TAKEOFF AND LANDING LIMITS.** Enter applicable Takeoff And Landing Weight Limit as found in the Limitations section of Handbook.

13. **SELECTED WEIGHT.** If line 11 is greater than line 12, line 11 may be used for JETTISONABLE loads. However, the lowest weight, line 11 or 12, will be used for NON-JETTISONABLE loads.

Exhibit A-11: Example of Form FC-67
CDF Helicopter Load Calculation

Exhibit A-10 Example of Form FC - 67
CDF Helicopter Load Calculation

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION HELICOPTER LOAD CALCULATION **CDF**	COPTER NO. AND MODEL			
PILOT	MANAGER			
MISSION	DATE	TIME		
1. DEPARTURE BASE	PRESS. ALT.	TEMP.		
2. DESTINATION	PRESS. ALT.	TEMP.		
3. HELICOPTER EQUIPPED WEIGHT				
4. FLIGHT CREW WEIGHT				
5. DEPARTURE FUEL (GALS X LBS)				
6. FOAM (GALS X LBS)				
7. OPERATING WEIGHT (3 4 5 6)				
8. ENROUTE FUEL (lbs) Reduce Destination Operating Weight by this amount.	DEPARTURE	DESTINATION		
	HIGE	HOGE	HOGE	
	INTERNAL	INTERNAL	INTERNAL	EXTERNAL
9. COMPUTED MAX GROSS WEIGHT				
10. WEIGHT REDUCTION				
11. ADJ. MAX GROSS WT. (9 minus 10)				
12. TAKEOFF/LANDING LIMITS				
13. SELECTED WEIGHT (11 or 12)				
14. OPERATING WEIGHT (line 7)				
15. ALLOW. PAYLOAD (13 minus 14)				
16. PASSENGER/CARGO MANIFEST		PASSENGER/CARGO WEIGHT		
17. INITIAL ATTACK TOOLS				
18. WATER BUCKET				
19. WATER/RETARDANT (gals)				
20. ACTUAL PAYLOAD (15 or less)				
HELITACK CAPTAIN (Signature)	PILOT (Signature)			
FORM FC - 67				

14. **OPERATING WEIGHT.** Departure operating weight from line 7. Destination operating weight is determined from enroute fuel consumption reduction.

15. **ALLOWABLE PAYLOAD.** The maximum allowable passenger and/or cargo weight that can be carried for the mission.

16. **PASSENGER AND/OR CARGO MANIFEST.** Manifest departure passengers by name and/or cargo, by type, for each flight. List weights, including personal gear, in appropriate internal or external load column. Departure passengers and cargo shall be determined by destination capabilities.

18. **WATER/RETARDANT.** List gallons that bucket has been adjusted for or tank will be filled to. Weight = 8.3 pounds per gallon.

20. **ACTUAL PAYLOAD.** Total of all weights in Item 16. Shall not exceed the allowable payload (line 15).

2. Aircraft preflight inspection completed.

HELICOPTER & SERVICE TRUCK PRE-USE CHECKLIST

GENERAL		HOBBS READING:
DATE:	AIRCRAFT MAKE/MODEL:	FAA REGISTRATION #:
VENDOR:		
PILOT(S) NAME(S): CARD EXPIRATION DATE(S): PILOT(S) CARDED FOR INTENDED MISSION(S)?: ( ) YES ( ) NO		
A/C CARD EXPIRATION DATE:		A/C CARDED FOR INTENDED MISSION(S)?:
DEPT. BASE:	DEPARTURE HOBBS READING:	ARRIVAL HOBBS READING:

LOGBOOK REVIEW		
50/100-HR, PROGRESSIVE, OR OTHER INSPECTION PROGRAM U-P-TO-DATE?	( ) YES	( ) NO
ENTRIES INDICATING DAMAGE TO AIRCRAFT?	( ) YES	( ) NO
POWER CHECK COMPLETED/RESULTS SATISFACTORY?	( ) YES	( ) NO
COMMENTS ON LOGBOOK:		

CONDITION OF HELICOPTER

ITEM	OK	DOCUMENT INOPERABLE OR DAMAGED EQUIPMENT (DENTS, TEARS, LEAKS, ETC.)
Skin and Exterior		
Windows		
Doors		
Upholstery		
Cargo Compartment		
Skids/Wheels		
Flood Tank		
Bucket		
COMMENTS:		

REQUIRED HELICOPTER EQUIPMENT INSTALLED AND OPERATIVE (CONSULT CONTRACT)

ITEM	YES	NO	ITEM	YES	NO
Seat Belts and Harnesses			Strobe Light(s)		
Hi-Visibility Paint On Main Rotor Blades			Survival Kit		
9600-Channel Radio			First Aid Kit		
VHF-AM 720-Channel			Fire Extinguisher(s)		
Auxiliary Radio Adapter			Cargo Hook		
Loran/GPS			Convex Mirror		
High Skid Gear			Bucket		
Nine-Pin Plug (Type 3 helicopters only)			Other:		
COMMENTS:					

REQUIRED SERVICE TRUCK EQUIPMENT INSTALLED AND OPERATIVE (CONSULT CONTRACT)

ITEM	YES	NO	ITEM	YES	NO
Spare Set Of Filters			Filter Change Date Placarded		
Fire Extinguisher(s) Current			Ground Cables		
Hazmat Marking and Placards			Fuel Quality Control Log		
Inspection Sticker			Absorbent Materials For Spills		
COMMENTS: Beginning Odometer Mileage:					

SIGNATURE OF INSPECTING GOVT. REPRESENTATIVE:	PRINT NAME	DATE

WHITE: CO YELLOW: AGENCY MAINT. INSPECTOR BLUE: CONTRACTOR GREEN: HELIC MGR

HCM-2 (Test)
(May, 1994)

3. Fuel load confirmed.

4. Cargo checked and secured.

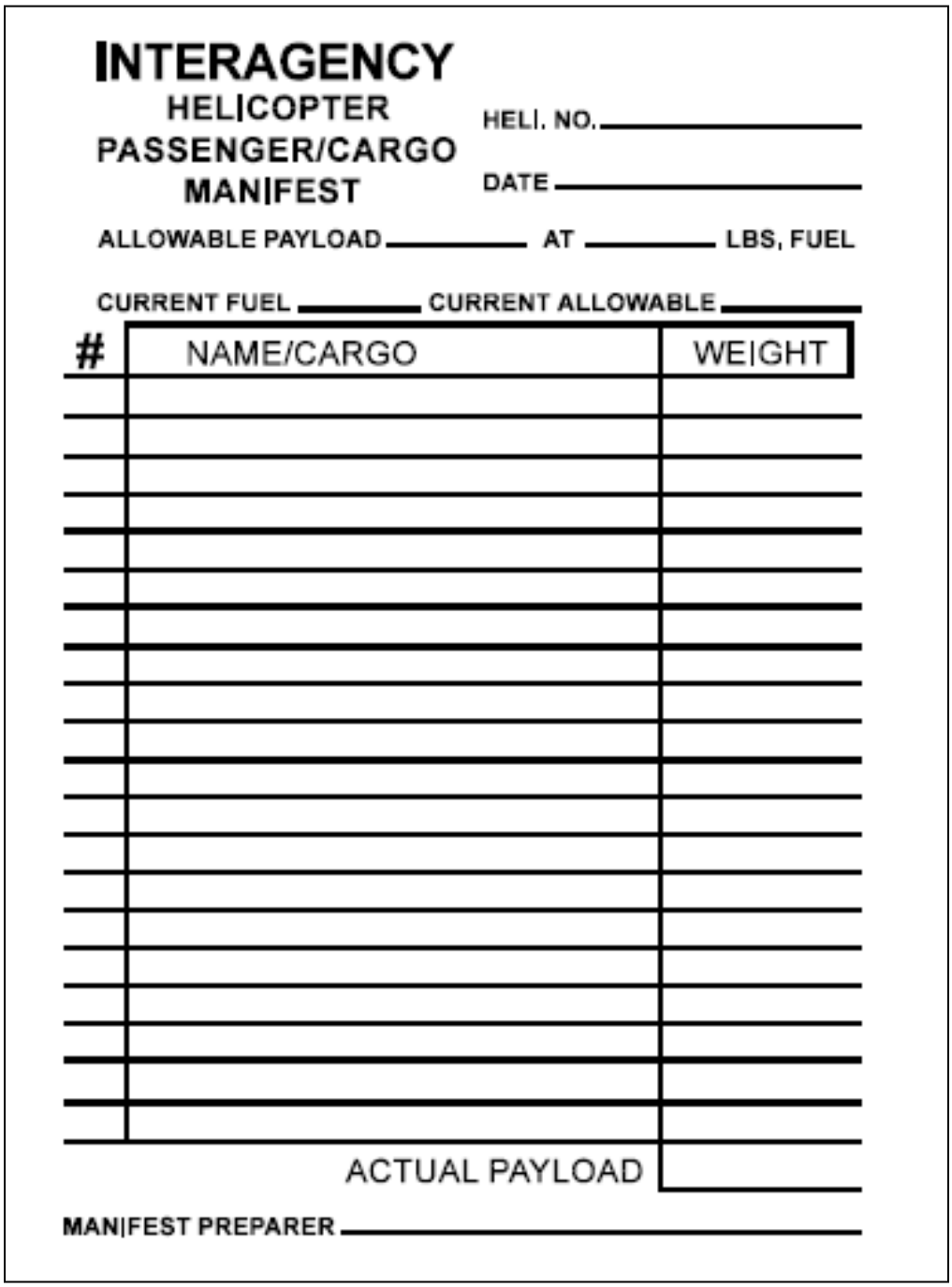
Cargo Inspection. Prior to commencing the operation, the Helicopter Manager, Loadmaster, or other person responsible for the cargo transport should inspect all cargo. Inspection should include, as applicable, the following:

- Liquid containers should be boxed or secured in an upright position;
- Boxes should be taped shut and all items tied down or secured, including sigg and other fuel holding containers;
- All backhaul garbage should be double bagged in plastic garbage bags to prevent leaks inside the aircraft. External garbage is best moved in cargo lift bags.
- Cargo should be secured by restraining straps or nets constructed of synthetic webbing; straps or nets should be attached to cargo rings or attachments points specifically designed for restraining purposes;
- Hazardous materials should be marked and the Pilot aware of items being transported (transportation of these materials must comply with agency handbook or guide or 49 CFR Parts 171-175);
- Do not transport liquid hazardous materials (for example, gas) with food or personal gear;
- Put personal gear and packs in plastic bags if transporting with other non-hazardous liquid containers; tape the neck of the plastic bags to prevent the plastic from ripping in transit;
- Sharp edges of tools should be protected by tool guards or tape to protect the cargo net or other containers;

5. Weather forecast received; winds within prescribed limits, visibility, precipitation, and turbulence.

Forecast Details:

6. Passenger manifest completed/left at point of departure.



INTERAGENCY
HELICOPTER PASSENGER/CARGO MANIFEST

HELI. NO. _____

DATE _____

ALLOWABLE PAYLOAD _____ AT _____ LBS, FUEL

CURRENT FUEL _____ CURRENT ALLOWABLE _____

#	NAME/CARGO	WEIGHT
	ACTUAL PAYLOAD	

MANIFEST PREPARER _____

7. Passenger briefing provided, including:

PILOT OR MANAGER BRIEFING TO PASSENGERS

1. **Personal Protective Equipment:** * Appropriate head protection (see Chart 9-1); Nomex clothing; ear and eye protection; boots; other survival equipment as applicable (PFD, life rafts, etc.)

2. **Approach and departure paths:**
- When landing in helicopters in uneven terrain, always approach and depart from the downslope (lower) side
- Approach and depart helicopter in a crouch position
- Keep in pilot's field of vision at all times
- Stay clear of the landing area when helicopters are landing or departing
- Never go near the tail of helicopters; do not approach airplanes from the font

3. **Tools and Equipment:**
- Secure hand tools and equipment awaiting transport (will not blow into rotor system)
- Carry tools or other long objects parallel to the ground, not over the shoulder into the air
- Make assignments for carrying tools/equipment to and from the helicopter or airplane

*PPE required for special use airplane missions and all helicopter flights. Available and worn by all passengers, pilot(s), and aircrew members.

4. **Seating in Aircraft:**
- No movement between seats unless authorized by pilot
- Seat belt fastened at all times
- Unbuckle only when specifically directed to do so by pilot or helicopter loading/unloading personnel
- Follow the instructions of pilot
- Know location of first aid kit, survival kit, fire extinguisher, ELT (Emergency Locator Transmitter), fuel shutoff switch, radio operation, oxygen (if available)

5. **Security of Equipment:**
- Loose items secured and manageable; all baggage secured in aircraft or in compartment
- Never throw any object from a helicopter or airplane
- Around helicopters, never reach up or dart after a hat or other object that has become unsecured

6. **Smoking:** Rules in and around aircraft

7. **Emergency Exits:** Location and use

HELICOPTER IN-FLIGHT EMERGENCY PROCEDURES

- Follow instructions of pilot/helicopter personnel
- Fasten seat belt and shoulder harness; secure gear
- Appropriate head protection properly worn
- Forward facing passengers restrained with shoulder harnesses, sit in full upright position with head an back against seat and arms folded across chest
- Forward facing passengers without shoulder harness: bend forward at waist, grasp arms under legs and place head between knees
- Aft (rearward) facing passengers, sit in full upright position with head and back against seat
- side facing passengers, bend forward at waist, grasp arms under legs and place head between knees
- Assist any injured person who cannot leave the aircraft
- Move clear of the aircraft only after rotor blades stop or when instructed to do so by the pilot or helicopter crew
- Assess situation, follow pilot/helicopter manager instructions, render first aid, pilot and/or helicopter manager to remove first aid kit, radio, ELT, and fire extinguisher.

POSTFLIGHT EVALUATION (Flight Manager/Pilot/Air Crew)

Just as the pre-flight briefing is deemed essential to the success of a mission, the post-flight evaluation is likewise important in order to correct problems encountered.

Yes No N/A

l. Mission safe and effective.

2. Team work effective.

3. Pilot performance satisfactory.

4. Aircraft configuration/performance satisfactory.

5. AMIS, Form OAS-34, prepared for incidents, aviation hazards, airspace conflicts, or maintenance deficiencies.

6. Aircraft Use Report, AMD-23e.

AMD-23E Aircraft Use Report (5/11)

Contractor	Contract #	Item #	N #	Make/ Model	PIC Pilot

Invoice Start Date	Invoice End Date	Page 1 of:	Hired Date	Hired Time	Release Date	Release Time

Vendor Signature: The following record of services provided is correct		Gov Rep Signature: The following record of services provided were received		Agency
➡		➡		Phone
Name (print)	Date	Name (print)	Date	E-Mail

NonFleet TIME Based Charges

Date	Pay Item Code	Start	Stop	Elapsed Time	From	To	# of PAX	Cargo Payload	TAX	Mission Code	Billee Code	Billee Agreement #	Charge Code	Fire

NonFleet FEE Based Charges

Date	Pay Item Code	Quantity	Rate	Total	City	State	TAX	Billee Code	Billee Agreement #	Charge Code	Fire

Remarks:

Appendix 3 – Project Aviation Safety Plan

Project Aviation Safety Plan

Project Name: Chilkoot Repeater Replacement – Site Assessment

Approvals

Reviewed By: Aviation Manager Date

Approved By: Park Aviation Administrator Date

1. **Supervision**
   a. PAM: Tim Steidel, current in Helicopter Manager (Resource only), Crewmember, M3 for Supervisors
   b. Helicopter Manager: Tim Steidel, current in Helicopter Manager (Resource only), Crewmember, M3 for Supervisors

2. **Project Objective:**

   Conduct single internal passenger/cargo load to Chilkoot Repeater site to perform maintenance on weather station. Transport faulty battery in sealed box with other cargo to Skagway from weather station.

3. **Justification**

   The Chilkoot Radio Repeater and weather station are located atop the mountain southwest of the Chilkoot Pass at elevation 4200'. This location is accessed only by foot over varied and arduous terrain 18 miles from the Chilkoot Trailhead. Due to the bulk and weight of associated equipment air support is essential to the completion of the service mission. As there are no identified safe landing strips for fixed-wing, helicopter use is the only feasible method to accomplish the mission.

4. **Project Dates**

   Thursday, September 8, 2011 (estimated flight time of 40 minutes, not including on the ground time and ½ hour stand-by on-site.); flying begins at 7:30am.

5. **Flight Plan / Actual Payloads**

Destination	Origin	Cargo/Pass.	Payload HazMat(*)
Chilkoot Repeater Site	Skagway	3 Pass.	900
Skagway Base	Chilkoot Repeater Site	Cargo	300

6. <u>Aircraft/Pilots/Crew/Passengers:</u>

Approved Project Aircraft: A-Star, **3 TH**
Pilot – John Whedon

Crewmembers:	<u>Crew Lead</u>	<u>Project Location</u>
	Tim Steidel	Skagway

B3 Trained Passengers: Jessica Wilbarger
Dave Schirokauer

Untrained Passengers: Camilla Sulak

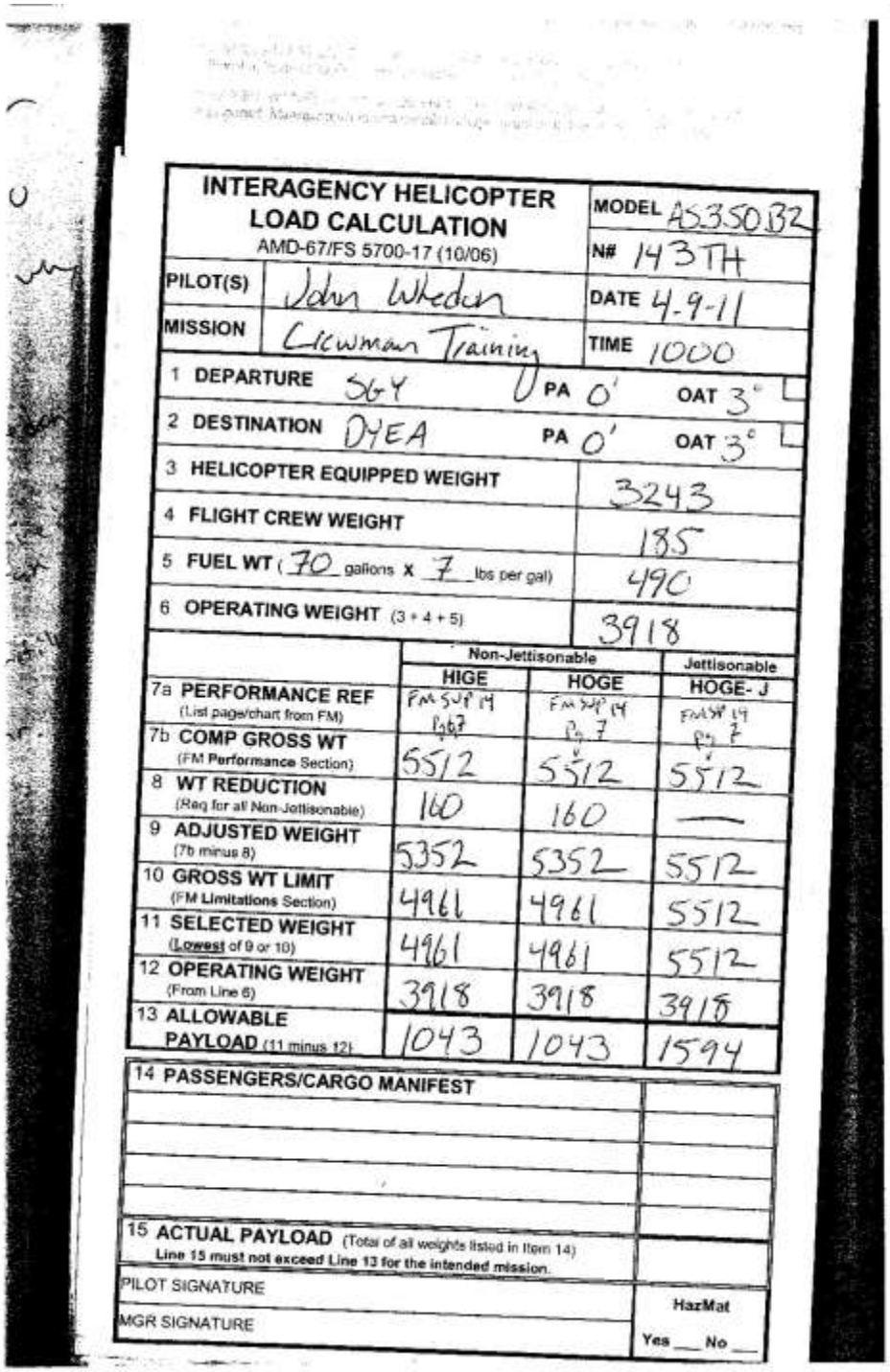
7. <u>Allowable Payloads:</u>

Load weights will be compared with the allowable payload as determined on the Helicopter load calculation for HOGE performance.

<u>General Guidance for this A-Star</u>:
Internal: Max. 1080 lbs at 70 gals of fuel
External (Jettisonable): Maximum 1594 lbs. at 70 lbs of fuel (7lbs/gal)

Note: Add 100 lbs for 200' line with electric hook; 40 lbs for 150' line with manual hook; 30 lbs for 100' line with manual hook to actual external cargo payload totals.

Load Calc



INTERAGENCY HELICOPTER LOAD CALCULATION
AMD-67/FS 5700-17 (10/06)

MODEL AS350 B2
N# 143TH
PILOT(S) John Wheden
DATE 4-9-11
MISSION Crewman Training
TIME 1000

1 DEPARTURE SGY PA 0' OAT 3°
2 DESTINATION DYEA PA 0' OAT 3°
3 HELICOPTER EQUIPPED WEIGHT 3243
4 FLIGHT CREW WEIGHT 185
5 FUEL WT (70 gallons X 7 lbs per gal) 490
6 OPERATING WEIGHT (3 + 4 + 5) 3918

	Non-Jettisonable		Jettisonable
	HIGE	HOGE	HOGE- J
7a PERFORMANCE REF (List page/chart from FM)	FM SUP 14 Pg 7	FM SUP 14 Pg 7	FM SUP 14 Pg 7
7b COMP GROSS WT (FM Performance Section)	5512	5512	5512
8 WT REDUCTION (Req for all Non-Jettisonable)	160	160	—
9 ADJUSTED WEIGHT (7b minus 8)	5352	5352	5512
10 GROSS WT LIMIT (FM Limitations Section)	4961	4961	5512
11 SELECTED WEIGHT (Lowest of 9 or 10)	4961	4961	5512
12 OPERATING WEIGHT (From Line 6)	3918	3918	3918
13 ALLOWABLE PAYLOAD (11 minus 12)	1043	1043	1594

14 PASSENGERS/CARGO MANIFEST	
15 ACTUAL PAYLOAD (Total of all weights listed in Item 14) Line 15 must not exceed Line 13 for the intended mission.	
PILOT SIGNATURE	HazMat Yes ___ No ___
MGR SIGNATURE	

8. Communications/Flight Following

TEMSCO: Uses statewide Automated Flight Following
NPS Denali Dispatch: Denali Dispatch notified of flight plan. Capable of accessing TEMSCO AFF
NPS Local: KLGO staff will flight follow with 15 minute or more frequent radio checks.

Location	Radio Channel	Primary Frequency	tone
Skagway	3 – AB Mnt	Rx 164.750 Tx 166.900	
Dyea	4 - Dyea	Rx166.750 Tx 168.575	
Canyon City	4 - Dyea		100
Sheep Camp	2 - Chilkoot	Rx 166.300 Tx 166.900	
Alternate	1 – Local	Rx 166.300 Tx 166.300	

Note: If the Chilkoot Repeater is down, use channel 1 – local for line of sight communications directly with pilot when in proximity and using the station base radio for relaying information between Sheep Camp and Dyea using Canyon City crewmember(s).

Alternate Comms: Satellite Phone (8816-4147-1515)
When ready "house" symbol indicates press and hold "0" until + symbol appears on the display. If having a problem with registration press 'upward arrow' then '8'. Dial phone number including country and area code, press 'ok'. Example: +1 907 983-9200.

Other: Spot Satellite Tracking Device

9. Fuel

Project is anticipated to be completed within one fuel cycle. If additional fuel is required to complete the mission, TEMSCO will refuel at their base of operations in Skagway.

10. Emergency Procedures:

All personnel involved in this mission are responsible for the safe operations within their work environment. Anyone may refuse to board a flight where they observe an unsafe condition. Likewise, anyone may shut down the project in part or completely when an unsafe condition arises that cannot be mitigated immediately by the personnel in the area. All unsafe conditions should be immediately reported to the helicopter manager(s). A mechanical "chip" light on the aircraft requires an immediate suspension of use of that aircraft until an AMD approved mechanic can inspect the ship.
If a 15 minute flight following check fails to report, efforts will continue to be made to make radio contact with the pilot and area ground crews. After an additional 15 minutes without contact, TEMSCO Base or Denali Dispatch will be notified of the overdue report and efforts made to locate the ship via AFF and TEMSCO comms. A

request will be made to TEMSCO for a reconnaissance flight across the relevant leg of the flight plan to attempt to make visual or radio contact.
In the event of a known or witnessed emergency, the local 911 emergency response will be utilized. Any trained medical personnel within area of an emergency will provide first response to medical needs and basic fire suppression to protect life of persons, if safely manageable. Otherwise, evacuate the crash scene, until safe to approach or emergency response arrives on scene.

Emergency Trained Personnel	Certifications	Project Location
Tim Steidel	EMT B / LE Type I	Skagway

In the event of an aircraft involved accident deploy your personal locating beacon in accordance with manufacturer instructions. Fully extend antenna and press and hold on/off button for 1 full second. Do not turn it off until emergency response arrives. At least one passenger will carry a PLB on their person. Each passenger will wear park provided aviation safety vests with pfd and survival items.

11. Aerial Hazard Analysis

Runway Traffic (Skagway): TEMSCO utilizes routine communications with other air traffic in the area and follows standard safety precautions for mid-air collision avoidance. All personnel keep watchful for other aircraft in area and notify pilot.

AB Mountain Cell Tower (Skagway): Pilot uses pre-established flight pattern that avoids cell tower location and vicinity residential area and directs route over water south of runway and AB Mountain ridgeline.

Clouds/Ceiling level: Sustained flight below 500’ above ground level between project sites will result in shutting down the project until visibility improves.

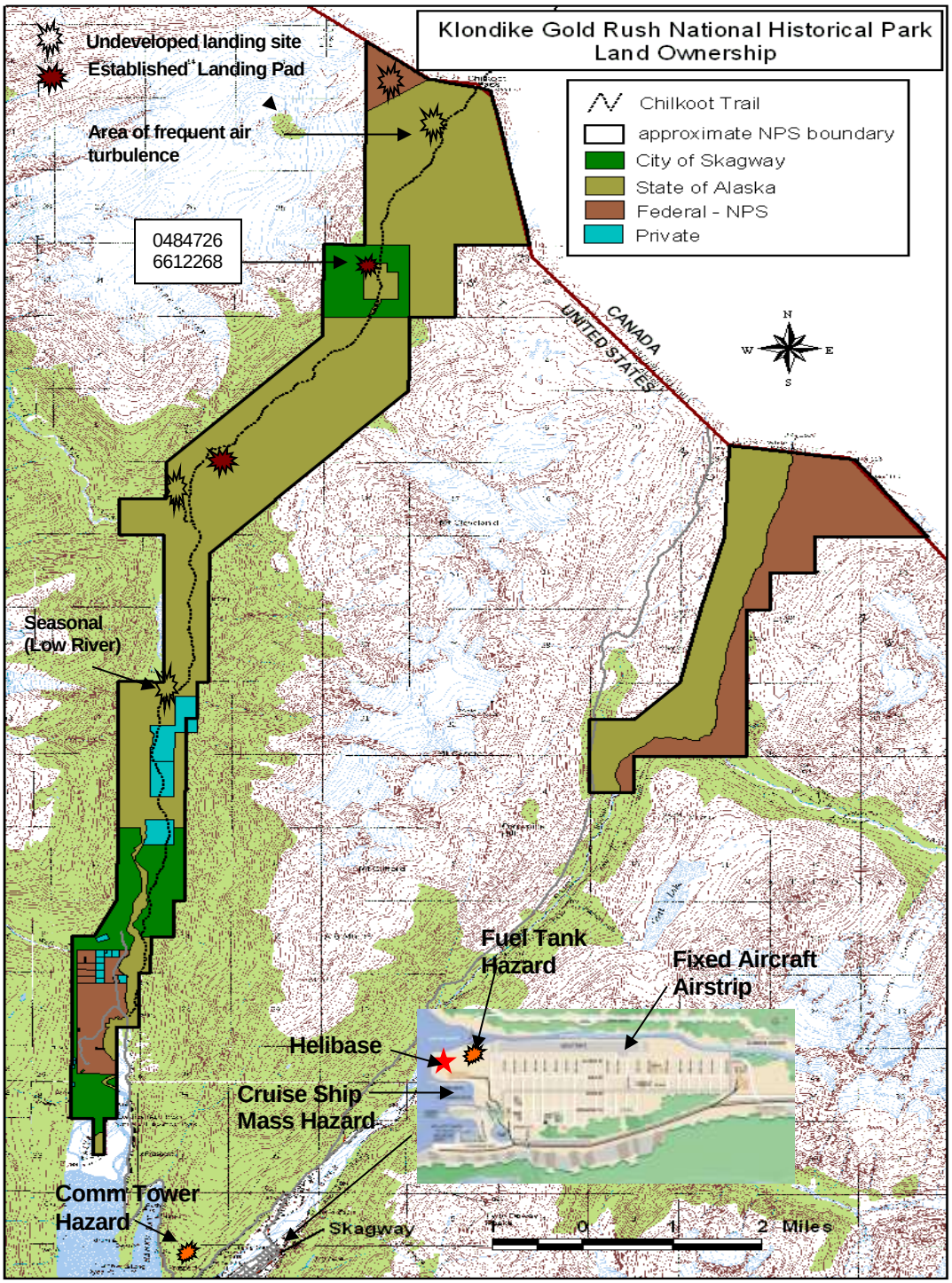
Weather Station tower and existing radio shell structure poses a 12’ hazard. Designated landing zone is located outside the safe distance for potential rotor strike.

12. Protective Clothing/Equipment:

All PPE will be worn by passengers in accordance with DOI requirements for special flight missions.

13. Hazard Analysis Mitigation

Appendix 4 – Hazards Analysis Map



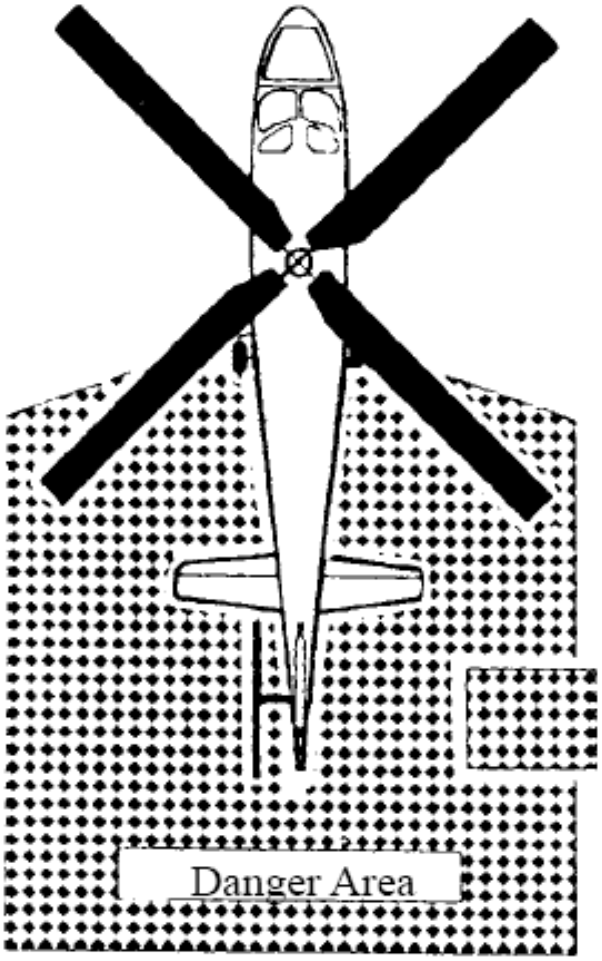
Helicopter Landing Area Selection

Choosing a landing area:

- Locate a reasonably flat area.
- Choose an area clear of people, vehicles, obstructions such as trees, poles, and especially overhead wires. The area must be free of stumps, brush, posts, large rocks, or anything over 18 inches high.
- Consider the wind direction. Helicopters land and takeoff into the wind. Choose an approach free of obstructions. Any obstruction should be relayed to the helicopter crew on initial radio contact.
- Remove or secure any loose items in and around the landing area such as trash, blankets, hats or equipment.
- Wet down the landing area if dusty conditions are present.

Helicopter Landing Area Safety

- Keep bystanders well clear of the helicopter and supervise the safety of personnel working around the helicopter.

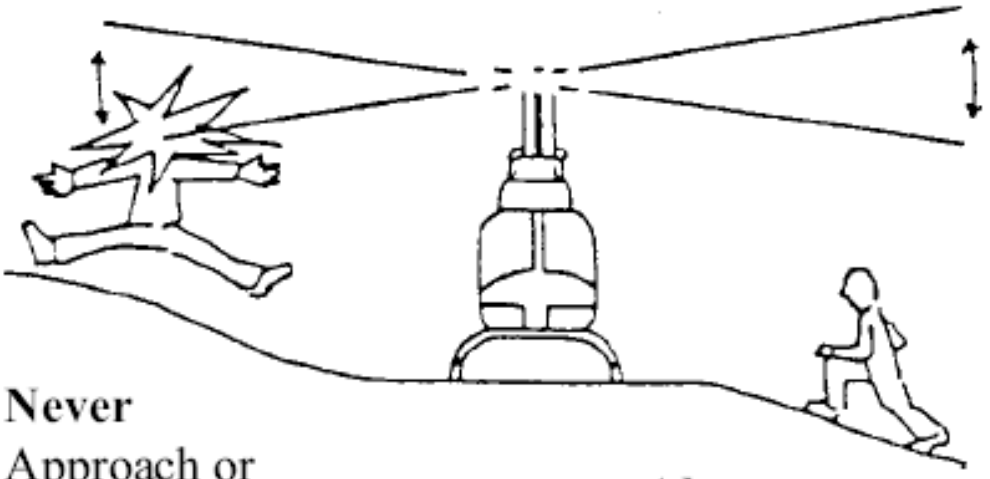


= Avoid these areas

Helicopter Landing Area Safety

- Always get the approval of a flight crew member or the pilot before approaching a starting or operating helicopter. Only approach and depart as directed, in a slightly crouched position, and in full view of a crewmember.

- When approaching or departing, do not hold equipment overhead.



Never
Approach or leave uphill

Always
Approach from the downhill side

Appendix 6

Sample 1: Hazardous Materials Manifest

Hazardous Materials Manifest
DOT E-9198

Date_____

Aircraft # _____ Bureau/Agency_____

Common Name	Shipping Name	Hazard Class	UN #	ERG #	QTY	WT

Total Weight

Shipper's Signature

Pilot's Signature

Location

Sample 2: Hazardous Materials Manifest

Hazardous Materials Manifest
DOT E-9198

Date_____
Aircraft # _____ **Bureau/Agency**_____

Common Name	Hazard Class			ERG#	QTY	Weight
Batteries Wet/Acid	CORROSIVE MATERIALS			154		
Batteries Wet Non-Spillable	CORROSIVE MATERIALS			154		
Bear Spray, Irritants	MISCELLANEOUS HAZARDOUS MATERIALS					
Cartridges Small Arms	NO SIGNIFICANT BLAST HAZARD					
Diesel Fuel	COMBUSTIBLE LIQUID			128		
Engines, Internal Combustion	FLAMMABLE COMBUSTIBLE LIQUIDS			128		
Fire Extinguisher	NONFLAMMABLE GAS			126		
Flammable Liquid (Drip Torch)	FLAMMABLE LIQUID			128		
Fuel Aviation Turbine	COMBUSTIBLE LIQUID			128		
Fusee	FLAMMABLE SOLIDS			133		
Gasoline	FLAMMABLE LIQUID			128		
Methanol (Petro Gel)	FLAMMABLE LIQUID			131		
Methacetylene/Propadiene Mixture, Stabilized (Mapp Gas)	FLAMMABLE GAS			116P		
Oxygen	NONFLAMMABLE GAS			122		
Petroleum Distillate (White Gas)	FLAMMABLE LIQUID			128		
Potassium Permanganate	OXIDIZER			140		
Propane	FLAMMABLE GAS			115		
Medical Waste	INFECTIOUS SUBSTANCE			158		
					Total Weight	

Remarks:

Shipper's Signature	**Location**
Pilot's Signature	

Contact Telephone Number

Hazardous Materials Manifest
DOT E-9198

Date_____
Aircraft # _____ Bureau/Agency_____

Common Name	Hazard Class			ERG#	QTY	Weight
				Total Weight		

Remarks:

Shipper's Signature	Location
Pilot's Signature	
Contact Telephone Number	

Engines internal combustion	Engine internal combustion flammable gas powered	9 CLASS 9	UN3166	128		
Fire extinguisher	Fire Extinguisher	2.2 NON-FLAMMABLE GAS	UN1044	126		
Fireline explosives FLE	Explosive blasting type E	1.1 EXPLOSIVES 1.1	UN0241	112		
Flare shell ¾" x 3 ½" Pistol Flare	Flammable solid, inorganic, nos (Aluminum powder)	4.1 FLAMMABLE SOLID	UN3178	133		
Flare shell 2 ½" x 6" Pistol Flare	Flammable solid, inorganic, nos (Aluminum powder)	4. FLAMMABLE SOLID	UN3178	133		
Fuel white Gas	Petroleum distillates, nos, (Naphtha solvent)	3 FLAMMABLE	UN1268	128		
Fuel, aviation jet-a	Fuel aviation, turbine engine	3 FLAMMABLE	UN1863	128		
Fusee	Fusee (rail or highway)	4.1 FLAMMABLE SOLID	UN1325	133		
Gasoline	Gasoline	3 FLAMMABLE	UN1203	128		
Life saving PFD	Life saving appliance not self inflating	9 CLASS 9	UN3072	171		
Lithium battery	Lithium battery	9 CLASS 9	UN3090	138		
Map Gas Helitorch	Methyl acetylene and propadiene mixtures stabilized	2.1 FLAMMABLE GAS	UN1060	116P		
Matches	Matches Safety (book , card or strike on box)	4.1 FLAMMABLE SOLID	UN1944	133		
Medical waste	Infectious substances affecting humans	6.2 NONE	UN2814	158		
* MRE heaters (FRH) Non- activated	Magnesium powder	4.3 DANGEROUS WHEN WET	UN1418	138		
Nitrogen	Nitrogen, compressed	2.2 NON-FLAMMABLE GAS	UN1066	121		
Nitrogen refrigerated	Nitrogen, refrigerated liquid, cryogenic liquid	2.2 NON-FLAMMABLE GAS	UN1977	120		

Oxygen	Oxygen, compressed	2.2 NON-FLAMMABLE GAS	UN1072	122		
Paint	Paint including lacquer, enamel, stain, shellac, solutions, varnish, polish, liquid filler, and lacquer base.	3 FLAMMABLE	UN1263	127		
Petro –gel Helitorch	Methanol	3 FLAMMABLE	UN1230	131		
Petroleum oil	Petroleum oil	3 FLAMMABLE	UN1270	128		
Plastic Spheres	Potassium Permanganate	5.1 OXIDIZER	UN1490	140		
Propane	Petroleum gases, liquefied	2.1 FLAMMABLE GAS	UN1075	115		
Saw bar & mix oil	Not regulated by DOT	None	None	None		
Wood Stain	Wood preservatives, liquid	3 FLAMMABLE	UN1306	129		

Total Weight	
Shipper's Signature	**Location**
Pilot's Signature	

UN number Identification Number, ERG # Emergency Response Guide Number.
*** Do not handle as a Hazard Material if it is in the original or appropriate shipping package.**

Material marked not regulated by DOT is due to the amount, is smaller than the regulated amount.

Follow packaging instructions in Interagency Aviation Transport of Hazardous Materials. Handling of Hazard Materials Emergency Response Guidebook, and 49 CFR 172.101 Hazardous Materials Table.

Appendix 7a

Emergency Response Plan

AIRCRAFT ACCIDENT

PRIMARY RESPONSIBILITY: U.S. Coast Guard

FIRST NOTIFICATION:
24 hr. Interagency Aircraft Accident Hot Line 1-888-464-7427
Alaska Regional Office – Aviation Department 907-644-3407
Ken Barnes- Hm: 907- 373-7225 cell: 907-355 -2756 Skagway Emergency Services: ….....911
For Level 1 (hospitalizing injuries), see *NPS Incident Reporting Procedures*.

OTHER RESOURCES: To report or receive further information about an aircraft
U.S.C.G. Rescue Coordination Center (Juneau)….....800 478-5555
Alaska State Troopers (Juneau)….....907-789-2161
FAA & NTSB Anchorage….....907-243-8812
FAA Flight Service Juneau….....907-789-7380
FAA 24 Hour Duty Officer (Anchorage)….....907-271-5936
For military aircraft:
Air Force – Elmendorf Command, Anchorage….....907-754-1308 .....
Army – Fort Richardson Command, Anchorage….....907-864-0133 .....
EOD – Explosive Ordinance Disposal…..... .....…907-862-8114

RESPONSE: In the event that the NPS is the first to respond to an aircraft accident the following procedures are recommended:

- Immediately communicate nature of accident and any injuries to project manager.
- Assess scene safely.
- Remove and treat any injured personnel as quickly as possible from the wreckage.
- Aviation fuel is extremely flammable and explosive. Wear nomex clothing and face protection if available. Use onsite fire extinguisher to extinguish small accessible fires.
- No smoking or open flame within 500 feet of the wreckage. Report any fires associated with the accident.
- Establish a security perimeter. No one should be allowed to enter the perimeter (including the owner of the aircraft) until State Troopers, FAA, or NTSB assume control of the aircraft. The aircraft may be moved or disturbed only to the extent necessary to:
  - Protect the wreckage from further damage
  - Protect the public from injury
- Do not release press information about victims; refer press inquiries to the public information specialist.
- Should aircraft be burning, keep everyone back at least 1500 feet.

In the event of an accidental or intentional jettison of an external load:

- Stay clear of aircraft until pilot has safely landed.
- Locate external load and ensure safety to persons. Communicate observed damage to project manager, including hazardous materials threats.
- Project manager will cease operation once personnel are accounted for and secured and convene a safety review. Operation may reconvene upon clearance from the safety review team and authorization by the park aviation operations manager.

Interagency Aviation Mishap Response Guide and Checklist

Do not waste time trying to figure out if an event is an accident, that's the job of the NTSB (National Transportation Safety Board).
If you have an event with an aircraft that results in damage or injury no matter how slight.
REPORT IT—1-888-4MISHAP.

January 2006

NFES-2659

Administrative Information

This is a generic aircraft mishap response guide and checklist. It is not intended to be all encompassing but rather it provides the minimum essential elements that apply to most aviation mishaps. **You must tailor this plan to your own organization, mission, and operational location.** An electronic copy of this document can be downloaded at (http://www.fs.fed.us/fire/aviation_safety/mishaps/iamrp/index.html) or at (http://www.oas.gov/oassafty/library/iamrp.html). It will serve you best when used in conjunction with the Agency Administrator's Guide to Critical Incident Management (available through the Great Basin Cache Supply Office (NFES 1356).

All personnel involved in aviation operations should be familiar with the Aviation Mishap Response Guide and Checklist. **Ensure that your plan is up-to-date. It must be verified a minimum of annually AND prior to operations conducted in new locations**. When you review your Aviation Mishap Response Checklist ensure that all of the points-of-contact listed and their respective phone numbers and e-mail addresses are still valid.

Priority of Actions. As soon as you are aware of the accident ***START A LOG OF ALL ACTIONS AND CALLS,*** then refer to the expanded subsections of this plan. The subsections are listed in order of priority.

a. **Protect people** (Tab A). Life saving operations take first priority.
b. **Protect property** (Tab B). Property should be protected from unnecessary additional damage.
c. **Preserve evidence** (Tab C). Treat the area as if it were a crime scene and provide 24-hour security until the investigation team arrives. Identify witnesses, get their addresses and phone numbers.
d. **Notify and investigate** (Tab D). Report the accident. **Do not delay reporting** if detailed information is not immediately available.
e. **Recovery operations** (Tab E). Everything at the site is under the control of the NTSB until released.

Practice -- The absolute best way to be prepared for the unexpected is to periodically practice your Aviation Mishap Response Plan. Coordinate in advance and get as many responders as possible to participate when you conduct a training drill.

Update Record

Date of Review	Signature

Protecting People

a. Many times in the urgency to assist accident victims the **rescuers may place themselves in jeopardy** and become victims themselves. **Risk assessment and mitigation procedures should be enforced.**

b. Ensure **ALL** crew and passengers involved in an aircraft accident are cleared by medical authority prior to returning to duty.

c. Aircraft wreckage attracts people like a magnet. Keep non-essential personnel well clear, and preferably upwind.

d. **Hazards at an aircraft accident site** can include:

1. **Biological Hazards** -- Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV), and many others. See OSHA's 29 CFR 1910.1030 for control measures.
2. **Toxic Substances** -- Fuel, oil, hydraulic fluid, and exotic aircraft materials such as beryllium, lithium, chromium, and mercury. You must also consider the cargo the aircraft was carrying.
3. **Pressure Vessels** -- Tires (often above 90 psi), hydraulic accumulators, oleo struts, oxygen cylinders, and fire extinguishers. They may look OK, but they may have been damaged in the crash.
4. **Mechanical Hazards** -- Metal under tension (rotor blades bent under fuselage), heavy objects, composite materials, and innumerable sharp edges.
5. **Fire Hazards** -- Unburned fuel, hot metal (or other components), aircraft batteries, pyrotechnics, and the ignition of grass as a result of the accident. Be cautious of smoldering items which may re-ignite.
6. **Environmental Hazards** -- Weather, terrain, and animals (snakes, spiders, scorpions, etc.) Depending on the location and time of year, the environment may be among the most serious hazards at the scene.

e. **Utilize available protective devices and clothing**, and use extreme caution when working around the wreckage. Protective measures include:

1. Minimize the number of personnel allowed to enter the accident site.
2. Ensure exposed personnel use appropriate personal protective equipment (PPE) such as boots, long pants, long-sleeved shirts, leather gloves (use surgical gloves as inserts if blood or bodily fluids are present), and appropriate respirators if toxic vapors or composite material pose respiratory hazards.

f. Do whatever is necessary to extricate victims and to extinguish fires, but keep in mind the need to protect and preserve evidence. **Document and/or photograph the location of any debris, which must be disturbed** in order to carry out rescues or fire suppression activities.

REMEMBER, it's already a bad day; don't make it worse by letting someone else get hurt!

Protecting Property

NTSB Sec. 831.12 Access to and release of wreckage, records, mail, and cargo.

a. *Only the Board's accident investigation personnel, and persons authorized by the investigator-in-charge to participate in any particular investigation, examination or testing shall be permitted access to wreckage, records, mail, or cargo in the Board's custody.*

b. *Wreckage, records, mail, and cargo in the Board's custody shall be released by an authorized representative of the Board when it is determined that the Board has no further need of such wreckage, mail, cargo, or records. When such material is released, Form 6120.15, "Release of Wreckage," will be completed, acknowledging receipt.*

Treat the accident site like a crime scene. Wreckage, cargo, and debris should not be disturbed or moved except to the extent necessary:

a. To remove victims.

b. To protect the wreckage from further damage.

c. To protect the public.

In addition to the authority explicit in NTSB 831.12 another (very good) argument for restricting access is for the protection of the public from the hazards of the accident site (Tab A).

Initially the accident site should be protected by either your own people (e.g. if the accident occurred at a fire) or by local law enforcement officers. The investigation team may request extended security until the investigation is complete.

Preserving Evidence

NTSB Sec. 830.10 Preservation of aircraft wreckage, mail, cargo, and records.

a. *The operator of an aircraft involved in an accident or incident for which notification must be given is responsible for preserving to the extent possible any aircraft wreckage, cargo, and mail aboard the aircraft, and all records, including all recording mediums of flight, maintenance, and voice recorders, pertaining to the operation and maintenance of the aircraft and to the airmen until the Board takes custody thereof or a release is granted pursuant to Sec. 831.12(b) of this chapter.*

b. *Prior to the time the Board or its authorized representative takes custody of aircraft wreckage, mail, or cargo, such wreckage, mail, or cargo may not be disturbed or moved except to the extent necessary:*
   1. *To remove persons injured or trapped;*
   2. *To protect the wreckage from further damage; or*
   3. *To protect the public from injury.*

c. *Where it is necessary to move aircraft wreckage, mail or cargo, sketches, descriptive notes, and photographs shall be made, if possible, of the original positions and condition of the wreckage and any significant impact marks.*

d. T*he operator of an aircraft involved in an accident or incident shall retain all records, reports, internal documents, and memoranda dealing with the accident or incident, until authorized by the Board to the contrary.*

In addition to those items required by law (above) you should also:

Control access to the site by cordoning off the area and allowing into the area only those individuals who have official business. Establishing a pass system to identify authorized personnel is an excellent technique for serious accidents. Everyone who enters should be briefed on the known or suspected hazards and cautioned to avoid disturbing the evidence (flipping switches and souvenir hunting).

Photograph everything. Film is cheap and some evidence may be easily destroyed prior to the arrival of the accident investigators. Photograph switch positions, ground scars, and other perishable evidence.

Identify witnesses and request statements. Request witnesses to write out their statements as soon as possible (before witnesses can compare notes). Be sure to **GET WITNESSES' NAMES, ADDRESSES AND PHONE NUMBERS**. Supervisors must ensure that personnel with information pertinent to the investigation are made available to the investigators in a timely manner. If possible, coordinate with the accident investigator(s) PRIOR to de-mobilizing personnel with information pertinent to the accident.

Secure equipment and records. Crew items (i.e. helmets, survival equipment (if used), notes, charts, etc.) as well as dispatch logs and records should be controlled and provided to the IIC/investigation team upon arrival.

If you see something…SAY SOMETHING !!

Do not try to "classify" events as accidents or incidents, that's the job of the National Transportation Safety Board (NTSB). If you have an event with an aircraft that results in damage or injury, **REPORT IT.**

Initial Notification. DOI Aviation Management (DOI-AM) or the USDA-Forest Service (USFS) will be contacted by calling 1-888-4MISHAP (1-888-464-7427) and providing the information on Aircraft Accident Checklist / FS 5700-28.

***DO NOT DELAY the initial notification by trying to complete all of the blanks on the form. Call in the accident as soon as possible and call back as more information becomes available.*

The DOI-AM or USFS Investigator will review your actions and advise you of any additional actions you should be taking, or reports you need to make.

********If you have enough people you should conduct the notification process at the same time as you are conducting other aspects of the immediate response.*

Investigation:

a. Aircraft **accidents** (fatality, serious injury, or substantial damage) will usually be investigated by NTSB personnel (PL 106-181). DOI-AM/USFS personnel will generally be a "party" to the NTSB investigation.
b. Aircraft **incidents-with-potential** will be investigated by Air Safety Investigators from DOI-AM or USFS.
c. Aircraft **incidents** will usually require the local Aviation Manager or Aviation Safety Manager to investigate the event and report the facts and circumstances to DOI-AM/USFS. No report is required by the NTSB unless specifically requested (Part 830.15)
d. All aviation-related events that impact aviation safety (for either DOI-AM or USFS), must be reported using the **SAFECOM** (http://www.safecom.gov/).

Recovery Operations

NTSB Sec. 831.12 Access to and release of wreckage, records, mail, and cargo.

a. *Only the Board's accident investigation personnel, and persons authorized by the Investigator-In-Charge to participate in any particular investigation, examination or testing shall be permitted access to wreckage, records, mail, or cargo in the Board's custody.*
b. *Wreckage, records, mail, and cargo in the Board's custody shall be released by an authorized representative of the Board when it is determined that the Board has no further need of such wreckage, mail, cargo, or records. When such material is released, Form 6120.15, "Release of Wreckage," will be completed, acknowledging receipt.*

If an accident is investigated by DOI-AM or USFS investigators, they are responsible for notification of the NTSB and compliance with section 831.12 prior to releasing the wreckage.

Actual recovery (and the associated costs) is usually the responsibility of the owner (or the owner's insurer). Before committing the Government to unnecessary costs, check with the appropriate Contracting Officer.

Use extreme caution when removing or recovering aircraft wreckage (Tab A). Normally, salvage personnel are aware of, and take appropriate precautions for, hazards at accident sites. Your people may not!

Anyone who has ever been involved in the immediate response to an aircraft accident will agree that the first few minutes (and hours) are chaotic. **Developing and practicing your Aviation Mishap Response Checklist <u>today</u> is your best defense against the chaos of tomorrow.** Time is an extremely critical factor and immediate positive action is necessary; delay may affect someone's survival.

Conduct of Aircraft Accident Investigations. All U.S. Department of the Interior (DOI) and U.S. Department of Agriculture - Forest Service (USDA-FS) aircraft mishaps are investigated under the authority of the National Transportation Safety Board (NTSB) as defined in:

a. 49 Code of Federal Regulations (CFR) Parts 830 and 831

b. Public Law (PL) 106-181, and Federal Management Regulation (FMR) 102-33.185.

** This means that regardless of severity, all aircraft mishaps (accidents or incidents) are the domain of the NTSB. If the NTSB elects to not visit the site and the physical investigation is conducted by DOI or USDA-FS personnel, it is still an NTSB investigation and investigative efforts must comply with their rules and standards.

Tips and Techniques

a. **Who's in charge** -- Although the investigation is the responsibility of the NTSB you need to determine in advance who your organization wants to be responsible for the initial actions at the accident site

b. **Notification of Next-of-Kin** -- See Agency Administrator's Guide to Critical Incident Management for guidance. As a minimum, all supervisors should have a plan on how to contact their employee's next-of-kin.

c. **Start a journal** -- Write down everything regarding events, actions, points of contact (who, what, when, where, why).

d. **Control of Records** -- Under the provisions of NTSB Part 831.12 (Tab B) the records pertaining to the aircraft and the flight become a part of the investigation and "belong" to the NTSB until released. Gather and control the appropriate records until they can be turned over to the NTSB (or other authorized investigator). <u>Required records include (but are not limited to) aircraft operating and maintenance documents, crew records (flight and medical), flight plans, weather briefings, weight and balance forms, and load calculations</u>.

e. **Conduct after-action review (AAR)** -- After the dust has settled and the professional investigators have taken charge it is time to review what happened, what worked, and what needs to be improved. Conduct the AAR while issues and events are fresh in everyone's mind. Update your Aviation Plan with the lessons learned.

Definitions (See 49 CFR (NTSB) 830/831)

a. **Aircraft Accident** -- an occurrence associated with the operation of an aircraft, which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

b. **Substantial Damage** -- damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered "substantial damage" for the purpose of this part.

**** Incident with Potential (IWP)--** an incident that narrowly misses being an accident and in which the circumstances indicate significant potential for substantial damage or serious injury. The USDA-FS National Aviation Safety and Training Manager or the DOI-AM Aviation Safety Manager, as appropriate, will determine final classification. (The concept "IWP" is unique to USDA-FS and DOI.)

c. **Aircraft Incident** -- an occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.

d. **Investigator In Charge** -- the designated Investigator-In-Charge (IIC) organizes, conducts, controls, and manages the field phase of the investigation. The IIC has the responsibility and authority to supervise and coordinate all resources and activities of all personnel, both Board and non-Board, involved in the on-site investigation. The IIC continues to have considerable organizational and management responsibilities throughout later phases of the investigation, up to and including Board consideration and adoption of a report or brief of probable cause(s).

e. **Serious Injury** -- any injury which:

1. Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received;
2. Results in a fracture of any bone (except simple fractures of fingers, toes, or nose);
3. Causes severe hemorrhages, nerve, muscle, or tendon damage;
4. Involves any internal organ; or
5. Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

** In-flight damage to rotor blades or propellers can easily fit into the definition of " Substantial Damage." If you have damage to the main or tail rotor blades, or to the propeller, the chances are good that you have at least an incident with potential…**report it immediately! 1 888 4MISHAP**

Media Relations

NTSB Sec. 831.13 Flow and dissemination of accident or incident information.

a. *Release of information during the field investigation, particularly at the accident scene, shall be limited to factual developments, and* ***shall be made only through the Board Member present at the accident scene, the representative of the Board's Office of Public Affairs, or the Investigator-In-Charge.***

b. *All information concerning the accident or incident obtained by any person or organization participating in the investigation shall be passed to the IIC through appropriate channels before being provided to any individual outside the investigation. Parties to the investigation may relay to their respective organizations information necessary for purposes of prevention or remedial action. However, no information concerning the accident or incident may be released to any person not a party representative to the investigation (including non-party representative employees of the party organization) before initial release by the Safety Board without prior consultation and approval of the IIC.*

When the field investigation is conducted by DOI-AM / USFS personnel they will comply with the law by referring all questions, requests for interviews, etc. to the NTSB IIC or to the appropriate NTSB office.

Tips and techniques when working with the media:

a. Advise the media that the investigation of this accident is under the jurisdiction of the NTSB and any questions or requests for access to the site must be directed to them.

b. Don't aggravate the media and don't get aggravated by the media; they're just doing their job. Even aircraft accidents don't stay in the headlines forever… unless the reporter thinks you're hiding something.

c. Most reporters have prior experience at accident sites. Remind them of the hazards, to avoid disturbing the wreckage, and ask them to be respectful of the victims.

OVERDUE AIRCRAFT

An aircraft is considered "overdue" when it fails to arrive within 30 minutes past the estimated time of arrival (ETA) and cannot be located.

MISSING AIRCRAFT

An aircraft is considered "missing" when it has been reported to the FAA as being "overdue" and the FAA has completed an administrative search for the aircraft without success.

The aircraft is OFFICIALLY missing when the fuel duration, as reported on the request for flight following, or as reported on the FAA flight plan, has been exceeded and the aircraft location is unknown.

Time	Action	Contact and Phone	Time Log
Immediately at time aircraft is due	Attempt to contact aircraft by radio or phone. If equipped, review Automated Flight Following data. Contact destination agency airbase or airport. Gather info required for Aircraft Accident Report.		
15 minutes past due	Contact originating or enroute agency dispatch. Contact originating or enroute agency airbase. Contact originating or enroute airports		
30 minutes past due	Contact vendor home base. Contact FAA Flight Service Station and request an Alert Notice (ALNOT)		

Anytime the fuel duration exceeded or if an accident is suspected	Submit data from the Aircraft Accident Checklist to: FAA Flight Service Station and request an Alert Notice (ALNOT) DOI-AM /USFS Aviation Safety Manager Local Aviation Manager	1 800 - WX BRIEF (800 992-7433) or the Comm Center at 1 202 267-3333 1 888 - 4MISHAP (888 464-7427)	

** **Provide the information on Aircraft Accident Checklist or FS 5700-28 (Aircraft Accident Report).** Do not delay notification if you do not have all the blocks filled. Provide as much information as you can and follow-up when additional info is available.

SEARCH AND RESCUE. Search and Rescue (SAR) operations may be coordinated through the FAA to the Air Force Rescue Coordination Center (AFRCC) or with local law enforcement agencies.

Aircraft Accident Checklist

DOI-AM/USFS **1-888-4MISHAP**

(Do not delay initial report by trying to fill in all the blanks)

1. Point of Contact Information			
a. Name		c. Duty Position:	
b. Phone Numbers		d. Address:	
Work:	Cell:		
Fax:	Home:	e. E-mail:	
2. Accident Information			
a. Aircraft Registration/Tail Number		Type of Aircraft	Color
b. Date and Time of Accident			
c. Location of Aircraft (Grid, Lat/Log, Reference to Known Point)			
d. Hazardous Materials Involved? (Explosives, Radioactive Materials, etc.)			
e. Witnesses identified and statements requested?			
f. Accident Site Secured?		Photos Taken?	
g. Flight Data Recorder Secured? (if applicable)		ELT Deactivated?	
h. Total Number of Personnel Involved			
Number of Fatalities		Number of Injuries	
3. Accident Description (type of mission, what happened, weather, extent of damage, etc.)			
4. Admin Information			
a. Aircraft Owner		b. Operator	
c. Pilot in Command			
d. Point of Last Departure		e. Destination	
f. Route of Flight		g. Fuel on Board	
h. Nearest Commercial Airport		i. Suitable Helicopter Landing Site	
j. Other			

Emergency Contact Checklist

DOI-AM/USFS 1-888-4MISHAP (1 888 464-7427)
FAA Flight Service Station 1-800-WX BRIEF (1 800 992-7433)
FAA Communication Center 1-202-267-3333
NTSB Communication Center 1-202-314-6290

Update phone numbers, frequencies, and POCs quarterly and for each mission

1. Primary Response (Emergency Responders - dial 911, use discrete numbers as a back-up)
a. Fire Department
b. Police
c. Ambulance
d. Air Ambulance
e. Hospital
f.
2. Secondary Response (Support Personnel)
a. Flight Following -- FAA Flight Service Station (1 800 WX BRIEF)
b. – Dispatcher
c. DOI-AM / USDA-FS Aviation Safety Manager (1 888 4MISHAP)
d. NTSB (1-202-314-6290)
e. Photographer
f. HAZMAT Response Team
g. Coroner
h. Clergy
i. Explosive Ordnance Disposal (Military or Police)
j. Engineer / Recovery Specialists
k.
3. Agency Management and Other Agencies (as required)
a. Aviation Safety Manager
b. Aviation Manager
c. Public Affairs Officer
d. Military Base Operations
e. Federal Emergency Management Agency (FEMA)
f. Airport Operations
g. Aircraft Owner/Operator
h. Contracting Officer
i. Security
j. DOI-AM Regional Office **or** USFS Regional Office
k.

Emergency Contact List

Notes

Appendix 8

Aviation Program Evaluation

Date: _____

Bureau/Service: _____

Location(s): _____

Administration

Management and Organization:

- Departmental Manual (DM) for aviation policy available and current.
- National/local aviation plan available and current.
- Organizational structure clearly defined/understood.
- Aviation issues communicated between national and regional/area/state office.
    - Distinct lines of communication incorporated at all levels.
- Conflicts between aviation policy and mission accomplishment documented.

Comments: _____

Needs Assessment:

- Aircraft Use Reports reviewed for flight use and cost comparison from past 5-years.
- MOU's and/or IA's established and current for aviation mission support.
- Use of end product vs. aviation service contracts reviewed (if applicable).

Comments: _____

Economic Evaluation:

- All flight services documented (revenue and non-revenue).
- Aircraft expenditures and cost comparisons evaluated.
    - Fleet aircraft
    - Aircraft Rental Agreements (ARA)
    - Contract aircraft (Exclusive Use or Call-When-Needed)
- Aircraft cost analysis conducted and documented (OMB Circular A-126/A-76).
- Comply with SES travel requirements in A-126.

Comments: _____

Customer Satisfaction:

- Expectations of AM Regional Office and/or Headquarters support/services have been met.
    - Technical
    - Training
    - Procurement
    - Finance
    - IT
    - Safety

Comments: _____

Operations:

- PPE/ALSE available and used in accordance with the ALSE Handbook. Programs that routinely conduct aviation operations should have:
    - ALSE waivers documented and current.
    - Established ALSE inspection/maintenance program for care and use.
    - ALSE storage facility.
- Procedures established and used for flight plans and flight following.
    - Bureau policy established and used for flight plans and flight following.
        - Exceptions documented according to 351 DM 1.4 C(2)(b)
- Project aviation safety plan or prior authorization used for special use missions.
- Standard aviation procedures identified and used for specialized activities.
    - ACETA
    - SAR
    - LE
    - STEP
    - Low level telemetry
    - Low level wildlife survey
- Best practices identified and used for unique aviation activities (e.g. helicopter external load/longline operations, etc.)
- Special aircraft equipment requirerd for mission accomplishment installed in accordance with policy.
- Aircraft performance evaluated and determined acceptable for mission use.

- Hazardous materials transported in accordance to DM policy.
    - Current Interagency Aviation Transport of Hazardous Materials Handbook
    - Emergency Response Guide available
    - Current DOT Exemption available
    - Required training
- Use of cooperator aircraft in accordance with 351 DM 4.

Comments: _____

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Security

- Risk Assessment conducted for aviation facilities
    - Utilize Transportation Security Administration's (TSA) *Airport Characteristics Measurement Tool*, Appendix A found in the TSA Information Publication A-001, *Security Guidelines for General Aviation Airports* available at TSA website http://www.tsa.gov.
    - Minimum recommendations:
        - Signs
        - Documented security procedures
        - Positive passenger/cargo/baggage ID
        - All aircraft secured
        - Community watch program
        - Contact List
- Security plan prepared and current for each aviation facility. Use TSA Security Procedures Template, Appendix G of TSA Information Publication A-001, *Security Guidelines for General Aviation Airports* available at TSA website http://www.tsa.gov.
- All employees receive appropriate level of aviation security training.
- Aircraft physically secured and locked (duel-lock method) when not attended by authorized personnel.

Comments: _____

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Safety

- Aviation Safety and aircraft mishap prevention plans implemented and current.
    - Current Aviation Mishap Response Guide available
- Aviation project planning accomplished with minimum standards identified.

- Flight routes/areas determined
- Risk assessment accomplished
- Flight hazards identified, documented, and current
  - Flight Hazard map for local operational area
- Possible airspace conflicts identified and coordinated.

- Aviation Mishap Information System (AMIS) implemented and supported.
  - Incidents promptly reported using the SAFECOM system.
    - Sent through bureau channels and corrective actions or follow-up completed.
    - Received by AM Safety Office.
- Aviation managers review Bureau SAFECOMs

Comments: _____

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Training

- Managers identify and provide appropriate resources for aviation education and training.
- Mandatory training accomplished for personnel involved in flight activities under operational control of the Department (350 DM 1.1) and maintains 3-year currency.
  - Aircrew member
    - Passenger
  - Flight crew/Pilot, if applicable (bureau)
    - Other non-DOI training
    - Proficiency maintained
      - Pilot mentoring
      - Certified flight instructor
    - Recommendations for other training of courses
  - Interagency Aviation Trainers (IATs)
  - Water Ditching and Survival Instructors (2 year currency)

- Mandatory training for personnel with aviation responsibilities accomplished and 3-year currency maintained.
  - Line Managers
  - National/regional/state/area aviation managers, aviation coordinators/specialists and collateral duty aviation safety personnel.
  - Supervisory personnel
  - Contracting officers representative (COR)

- Participation in the Interagency Aviation Training (IAT) Program accomplished.
  - Bureau Interagency Aviation Trainers identified, current and utilized
  - Training coordinated with AM regional offices

- Training documented and reported on IAT website

- All employees receive appropriate level of aviation security training.
- Training concerns identified and/or recommendations suggested.

Comments: _____

Appendix 9

Transportation of Cargo

External Load Building Samples

Inspections **Look – Check – Double-Check – and when in doubt, Retire It!**

Lead Line

Lead line should be constructed of wire cable or wire rope; synthethic or natural fiber rope is not recommended (ie: nylon, polypropelene, or manilla).

Determinations to be made on whether to use:

- Pilot preference
- Cargo to be transported
- Terrain
- Vegetation

When inspecting lead lines, check the keeper gate on the hook at the end of the cable.

Check the swages (metal sleeve where the end of the cable fors a loop) to see they are secured on the cable. Copper swages should have a compression groove from being pressed together. If in doubt, or if the cable is kinked, retire it!

Cargo Nets should be inspected for broken or worn braids or strands, particularly in the center of the net. Check for chalking and brittleness. Once the polypropylene strands become brittle, the strength of the net is seriously compromised. In in doubt, remove from service.

Jettisonable Loads

A jettisonable load is usually associated with an external load that can be released from the cargo hook. Anything attached to the cargo hook on the belly of the helicopter (i.e. cargo, slingloads, lead lines, long line with remote hook) should be capable of being released at any time by the pilot, or in the event of an emergency.

Cargo Hook

The cargo hook is permanently attached to the belly of the helicopter and can be manually or electronically operated by the pilot. It must be FAA approved, self-cocking and automatic locking. The cargo hook will also have a manual release on the hook itself that can be operated by the user.

Prior to using the hook on a project, it is extremely important to test the manual and electrical releases and make sure that they function properly.

The swivel is attached to the cargo hook or to the load being transported. It eliminates the possibility of loads attached to the cargo hook twisting onto the hook and preventing it from being released. Cargo being transported on the cargo hook should always have a swivel attached to it. (TEMSCO will always have a swivel at the end of a long line during external load operations.)

When inspecting swivels, check that they spin, but most important, check the keeper gate on the hook part of the swivel. This is the part that generally becomes broken.

Cargo should be packaged and ready prior to day of helicopter operation. Equipment should be checked and double-checked before flight.

Preparation of Cargo

- Tape Boxes and loose items, tarps, and lids that could open or come out of the net in flight
- Check to see that liquid containers do not leak.
- Place personal gear or packs in plastic bags if transporting with liquid containers.
- Make sure it has been weighed and labled with weight, packager and destination.

Loading of Cargo Nets

- Heavy items should be placed in center of the net first. Light items on top.
- Pull tension on "purse string."
- Attach swivel to steel rings on "purse strings" If lead line is necessary, attach a swivel to the lead line. Tape keeper gate closed.
- Tie tag marked with destination and total weight of load including net, swivel and other accessories.

Longline with Remote Hook Operations

- Brief ground crews and pilot of load sequence, destination, and safety.
- Prior to operation inspect equipment. When checking helicopter electrical and manual releases, also check to see that the manual release on the remote hook is operational.
- It may be preferable for the parking tender to use a radio instead of hand signals to communicate to the pilot.
- When attaching a load to the remote hook, let the hook touch the ground before grabbing it. (Always wear gloves.) This grounds the possibility of shock from static electricity.
- After attaching the load, move clear. This is especially important when a load is being brought to you. Stay clear and let the load touch the ground. Let the pilot place the load on the ground before approaching to disconnect the load from the swivel.

- **Debrief** – Regardless of complexity, it is important to have a debriefing with everyone involved after all cargo has been transported. The sooner the better. Discuss what went right, what could have been done differently. Encourage feedback! Were there any apparent safety concerns? What did the pilot see?

Hover Hook-Ups

A hover hook-up is accomplished by a hook-up person standing underneath the helicopter and attaching the load to the cargo hook of the aircraft. A parking tender stands to the front of the helicopter and directs the pilot to the hook-up person using radio communications or hand signals. The hook-up person attaches the load, and exits to the front or pilot's side of the arircraft. The parking tender directs the pilot to lift the load and depart the area. It can be useful when transporting numerous loads or when other methods will not accomplish the job. It increases the efficiency of the operation by minimizing helicopter time on the ground and attaching loads to the cargo hook, or when the helicopter cannot land.

Emergency Manuevers: Pilot and ground crew should discuss in advance of operations the emergency response procedures. The pilot may indicate that the intent will be to move the helicopter away from the hook-up person underneath the aircraft. Generally, this is to the side the pilot is seated on.

- The hook-up person would then move in the opposite direction or fall flat next to the load and attempt to provide as much protection as possible.
- The parking tender should fall to the ground and minimize the potential of being a target for flying objects.
- An emergency plan should be discussed to include, available medical personnel and equipment, location of the closest medical facility, and available transportation to medical facility.

Cargo Inspections

- Liquid containers should be boxed or secured in an upright position;
- Boxes should be taped shut and all items tied down or secured, including sigg and other fuel holding containers;
- All backhaul garbage should be double bagged in plastic garbage bags to prevent leaks inside the aircraft. External garbage is best moved in cargo lift bags.
- Cargo should be secured by restraining straps or nets constructed of synthetic webbing; straps or nets should be attached to cargo rings or attachments points specifically designed for restraining purposes;
- Hazardous materials should be marked and the Pilot aware of items being transported (transportation of these materials must comply with agency handbook or guide or 49 CFR Parts 171-175);
- Do not transport liquid hazardous materials (for example, gas) with food or personal gear;
- Put personal gear and packs in plastic bags if transporting with other non-hazardous liquid containers; tape the neck of the plastic bags to prevent the plastic from ripping in transit;
- Sharp edges of tools should be protected by tool guards or tape to protect the cargo net or other containers;
- If multiple loads are to be transported, separate cargo by weight and destination;
- If using the carousel hook system (see Chapter 9), ensure the Pilot is aware of the destination sequence; write it down, or relay verbally to avoid loads being dropped at the wrong sites.

- All internal cargo shall be properly stored and secured, regardless of whether passengers are being transported with the cargo.

☞ CAUTION: All packs must be secured if carried in the passenger compartment. Packs shall not be carried unsecured in a passenger's lap or on the floor. Packs can be stored separately in the cargo compartment, in external cargo racks or transported in an external sling.

- Do not exceed the weight limit of the cargo compartment or racks. This weight should be placarded within or outside the compartment, usually on the door. If in doubt, ask the Pilot.

The Art of Slinging

Safety First

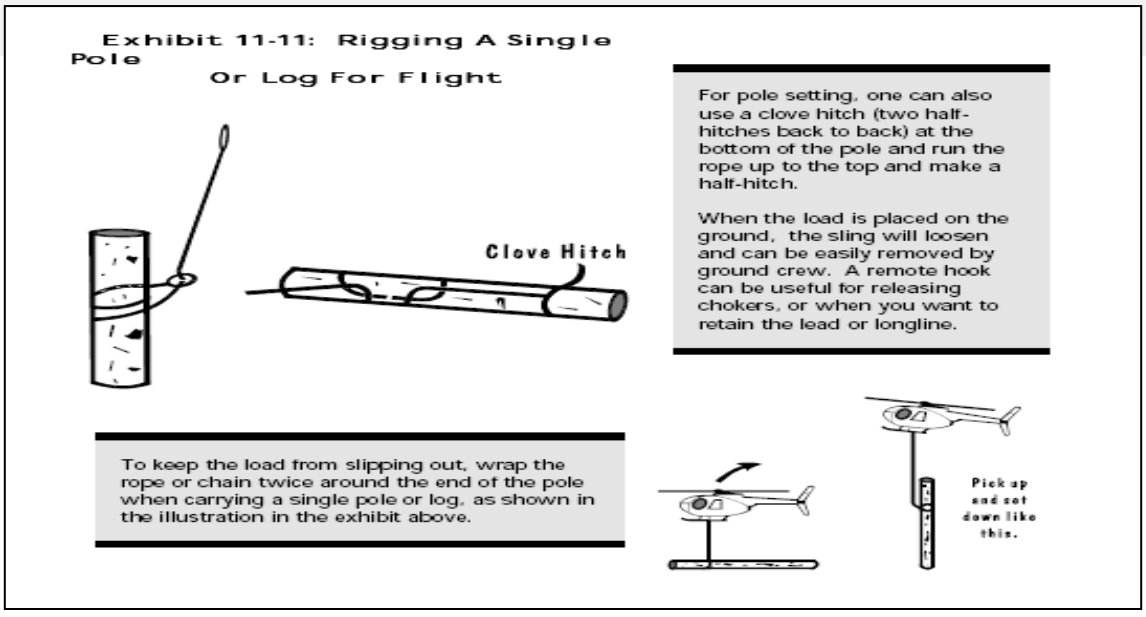
During the slingload operations, the pilot is concerned with three things: safety, efficiency, and avoidance of looking bad. Proper rigging is the key to accomplishing all three. If the rigging is incorrect, the load will be difficult to fly and possibly dangerous. Before any slingload you should ask yourself "Is this going to end of killing me or someone on the ground?"

Ground personnel should be thoroughly trained and briefed on rigging, hook-up, signals and safety before any operation is commenced. Safety of people on the ground is of the utmost importance. The landing and take-off areas should be cleared of any debris or objects that could fly up and strike personnel or helicopter. Ground personnel should wear goggles and gloves. They should never stand under a load, or between the load and an immovable object. While they have to ensure the security and alignment of the rigging, as it is pulled taut by the helicopter, they must not place their hands in the area where they could be caught or pinched by the rigging.

Some loads simply fly with difficulty. There is no way to tell how any given load will fly, but the following tips may be useful when rigging unusually shaped items to sling.

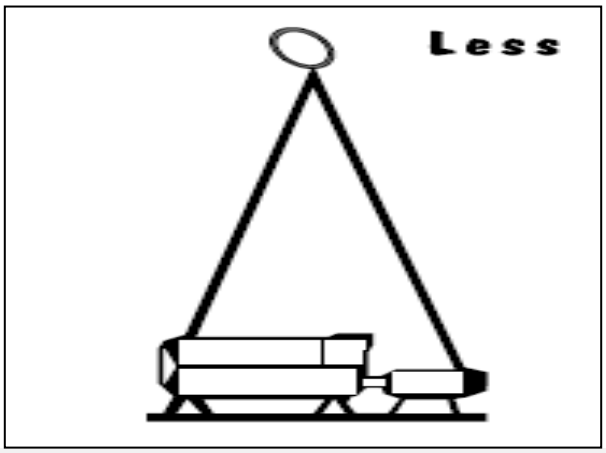
REMEMBER: The Pilot always has the final decision regarding whether or not to conduct the mission. Do not pressure the Pilot, either implicitly or explicitly, into flying a load with which he or she does not feel comfortable.

Single Point Sling: Usually not the best technique for slinging many loads, but will usually be used for loads contained within a net or items such as logs.

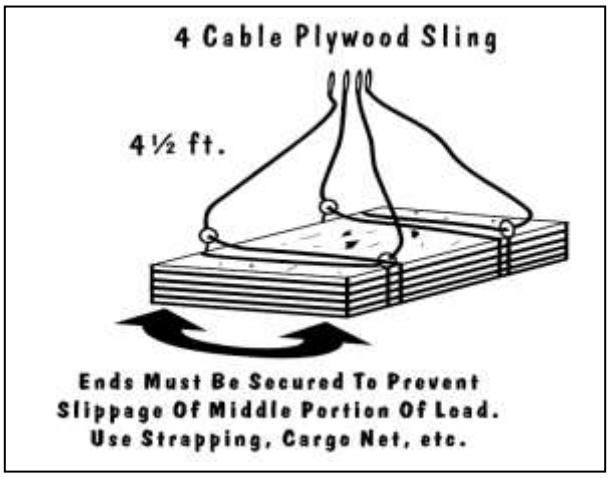


Carrying a single pole or log: Wrap the rope or chain twice around the end of the pole. Logging operations use a cable choker where a ball on the end clips into a sliding catch further up the cable, so that the cable chokes down on the log when it is under tension. For pole setting use a clove hitch, basically two half-hitches back to back, at the bottom of the pole and run the rope up to the top and make a half-hitch. When the load is placed, the sling will loosen and can be easily removed by ground crew.

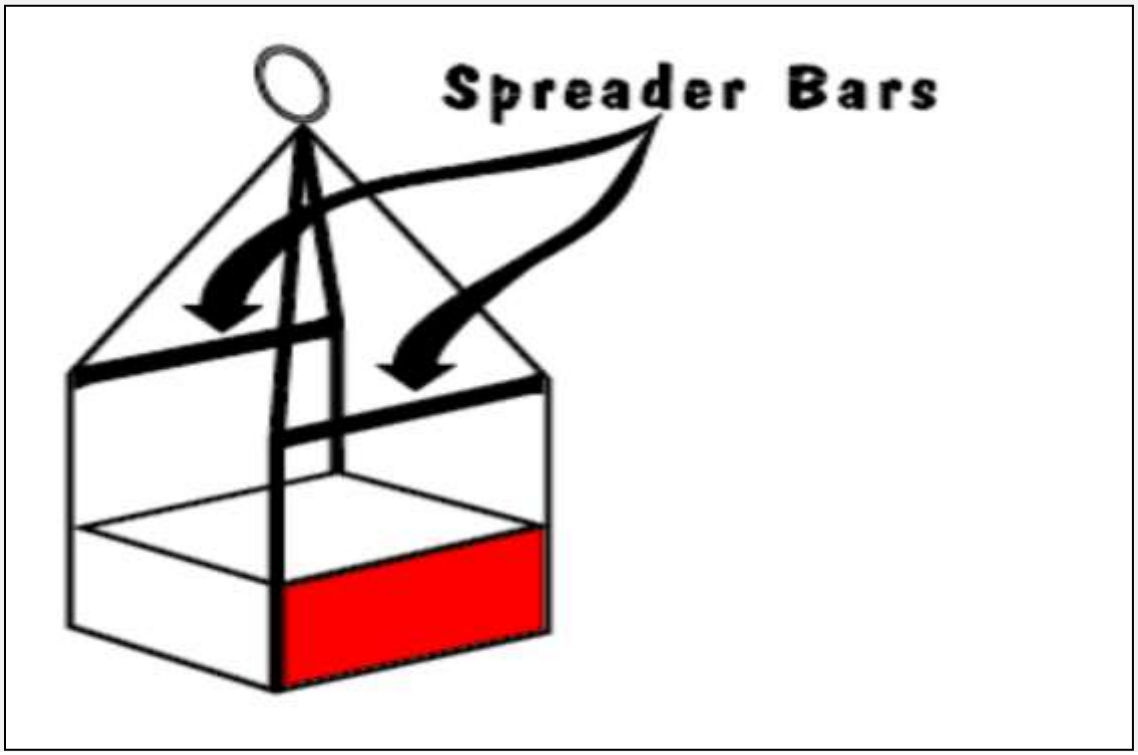
2-point sling:



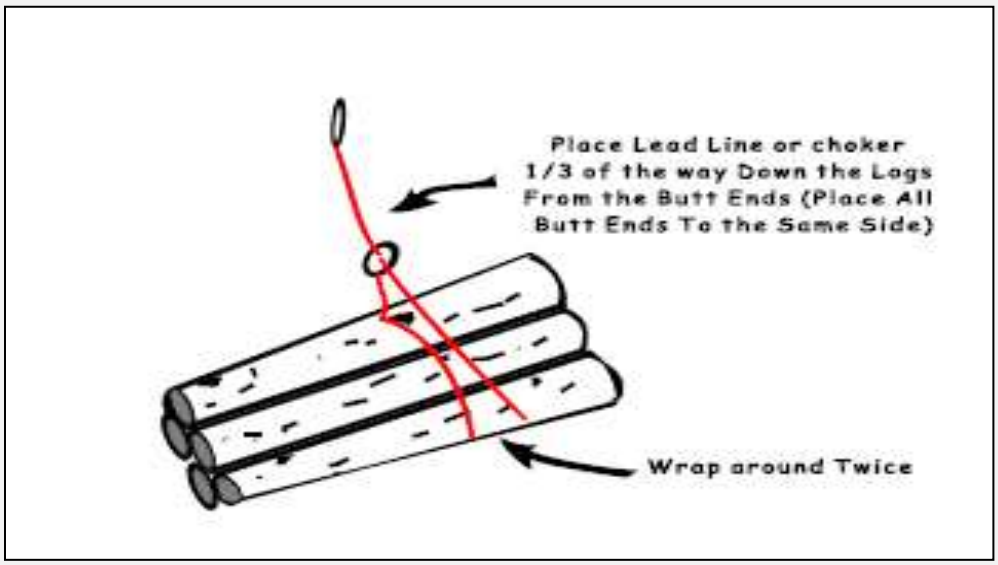
4-point sling:



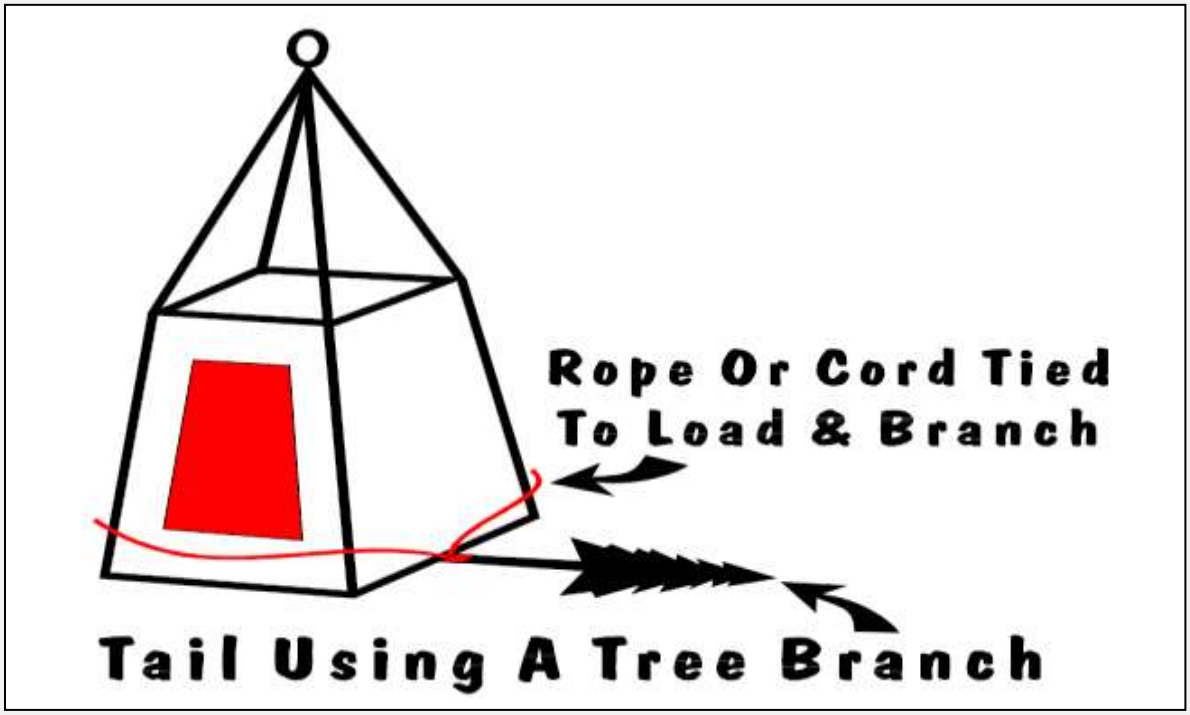
4-Point Sling with a Spreader Bar: Use a spreader bar for stabilizing a load, or where the sling may catch or damage the load if attached conventionally. Four cables with two bars are used here.



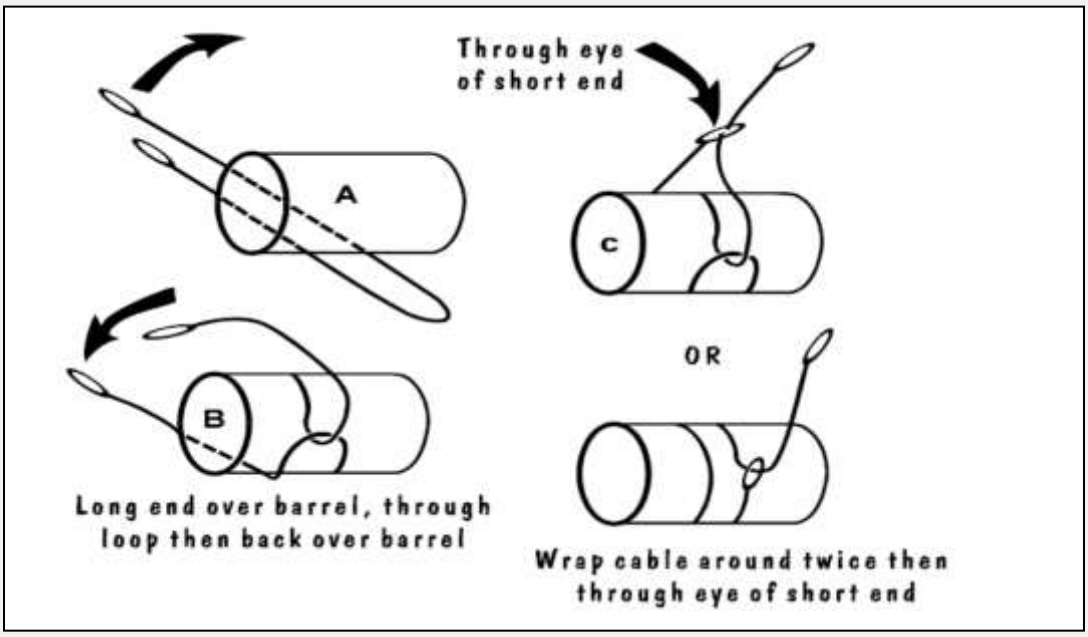
Stacks of logs or cut timber usually fly very poorly unless a tail is installed. Use a piece of plywood or a tree bough nailed (or screwed) to the load. (Note: TEMSCO pilots have traditionally not observed much difference in flight between lumber loads with a tail and lumber loads without. Inquire with pilot prior to flight.



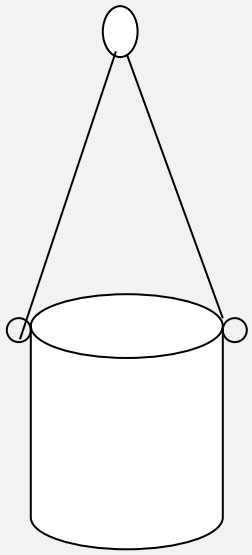
Box-like loads such as small huts usually fly very poorly, as they tend to spin. A drogue chute can be used to stabilize the load. The pilot may want to attach a pole to the load to give the chute more leverage. A windsock-like "chute" will fly better than a parachute, which will oscillate to spill the air that is being forced into it.



Rope Barrel Sling – Two of these can be used to make a load of six barrels:



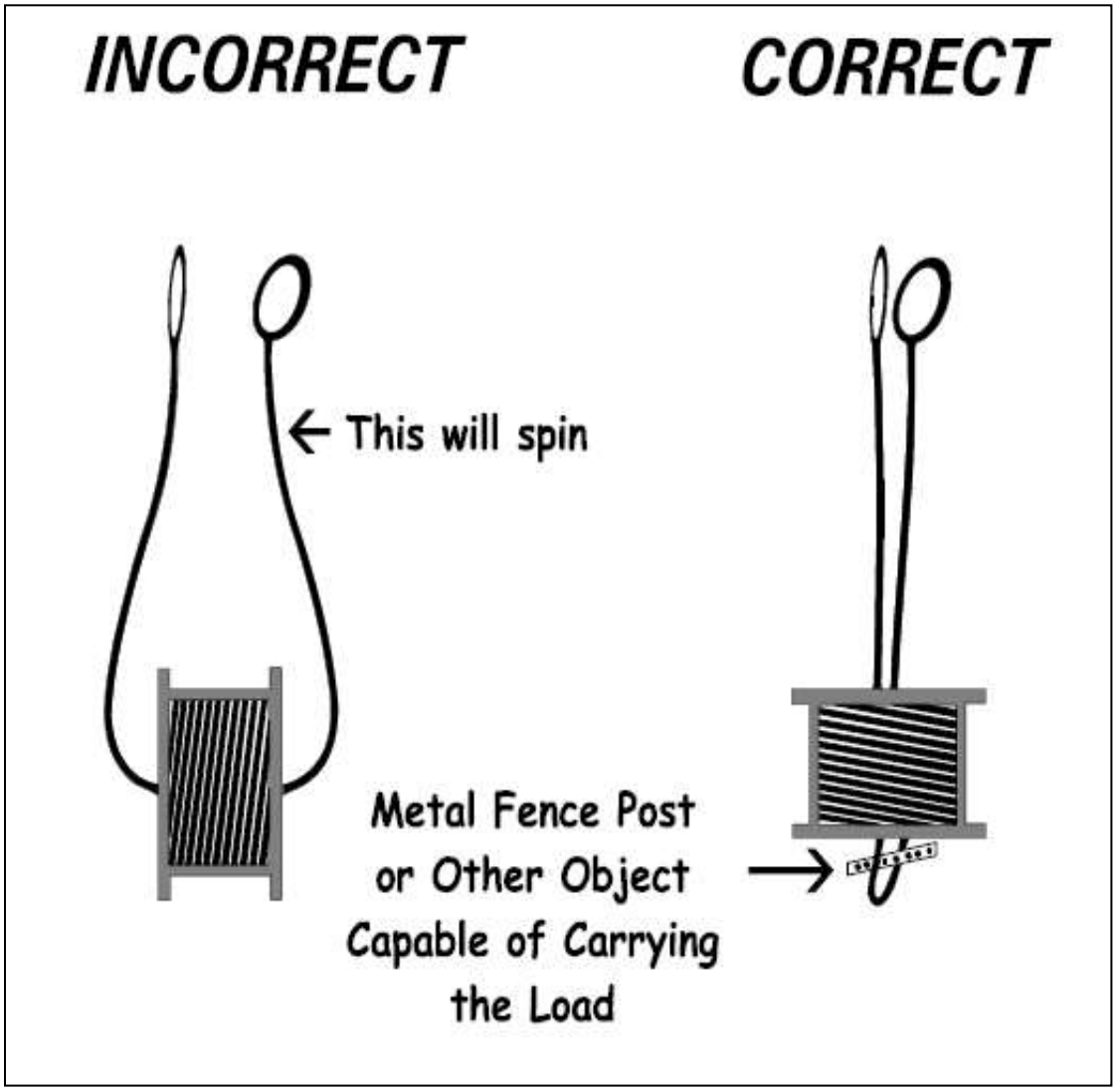
Drum for small items or water:



- On longline jobs, EVERY load gets a swivel to avoid line twisting. Multiple loads on the same longline require multiple swivels. One net/bag may revolve faster than the other.

- On multiple longline loads, the fragile or lighter loads should be rigged above the heavier loads. Rember each load gets a swivel.

Wire Spools


INCORRECT
CORRECT
This will spin
Metal Fence Post
or Other Object
Capable of Carrying
the Load

Appendix 10

IN REPLY REFER TO:

H6715 (AKRO-EPR)

July 5, 2006

VIA ELECTRONIC MAIL – NO HARD COPY TO FOLLOW

Memorandum

To: All Employees, Alaska Region

From: Regional Director, Alaska Region

Subject: Personal Protective Equipment (PPE) Waiver

Pursuant to Departmental Policy, I am approving the following PPE waivers for the Alaska Region.

A PPE waiver for aviation missions conducted in environmental conditions in which the required personal protective equipment does not provide adequate protection to prevent cold related injuries. It is valid October 15 – May 1 or for all high altitude rescue operations. This waiver applies to the PPE requirements for fire resistant clothing, all-leather, or leather and nomex gloves and leather boots.

A PPE waiver for "all" leather boots for all aviation missions conducted in environmental conditions in which the required personal protective equipment does not provide adequate protection from the work environment. Substitute footwear will be appropriate to the work environment and be at least ankle high.

Requirements: NPS personnel utilizing this waiver shall meet the minimum aviation training and currency requirements (B3). The employee's supervisor shall meet the minimum aviation and training requirement (M3) to insure they are aware of their responsibilities.

Changing into appropriate clothing after arriving at the field destination will be the preferred option. For some winter flights, the employee may elect to wear fire resistant clothing close to the skin or natural fibers underneath the fire resistant layer. Each individual employee will be allowed to make an informed personal choice for waiving the required PPE.

This waiver rescinds the PPE waiver dated June 2, 2003, and is valid until June 1, 2009.

Marcia Blaszak
Signed Original on File

cc:
Bill Spruill, National Aviation Manager
Harry Kieling, Director, Aviation Management Alaska
Paul Anderson, Superintendent, Denali National Park
Tomie Lee, Superintendent, Glacier Bay National Park
Troy Hamon, Acting Superintendent, Katmai National Park
Jeff Mow, Superintendent, Kenai Fjords National Park
Joel Hard, Superintendent, Lake Clark National Park
James Corless, Superintendent, Klondike Gold Rush National Park
Greg Dudgeon, Superintendent, Sitka National Park

George Helfrich, Superintendent, Western Arctic Parklands
Will Tipton, Acting Superintendent, Wrangell–St. Elias National Park
Dave Mills, Superintendent, Yukon-Charley Rivers/Gates of the Arctic National Park

Appendix 11

Training Requirements Matrix

IAT Requirements Matrix
January 2006

No.	Modules (Bold = available online.) / Positions	Passenger*	Aircrew Member	Fixed-Wing Flight Manager	Fixed-Wing Flight Manager Special Use	Helicopter Flight Manager	Helicopter Manager - Restricted	Aviation Dispatcher	Project Aviation Manager	Aviation Manager	Supervisor	COR/OPR	Aviation Technical Specialist
A-101	**Aviation Safety (all aircraft)**	AS	3	3	3	3	3	3	X	X	X		AS
A-103	FAA NOTAM System							X		X			
A-104	**Overview of Aircraft Capabilities & Limitations**		AS	AS	AS	AS		X	AS				
A-105	**Aviation Life Support Equipment**	AS	3	3	3	3	3	3	X	X	X		AS
A-106	**Aviation Mishap Reporting**	AS	3	3	3	3	3	3	X	X	X	X	
A-107	**Aviation Policy & Regulations-I**		AS	AS	AS	AS	X	X	X	X	3		
A-108	**Preflight Checklist & Briefing/Debriefing**	AS	3	3	3	3	3	3	X	X	X		
A-109	**Aviation Radio Use**		AS		AS	AS	AS	X	AS				
A-110	**Aviation Transportation of HAZMAT (if involved)**		3	3	3	3	3	3	3	3			AS
A-111	**Flight Payment Document**			3	3	X	X	X	X	X		X	
A-112	**Mission Planning & Flight Request Process**			3	3	X	X	X	X	X			
A-113	**Crash Survival**	AS	3	3	3	3	3	3	X	X	X		AS
A-115	Automated Flight Following			AS	X	X	X	X	AS	X	AS		AS
A-116	General Awareness Security Training		X	X	X	X	X		X	X			AS
A-200	**Annual Mishap Review**	AS	1	1	1	1	1	1	1	1	1	1	AS
A-201	**Overview of Safety & Accident Prevention Program**								X		3		AS
A-202	**Interagency Aviation Organizations**						AS	X	AS	X			AS
A-203	Basic Airspace				AS	AS	AS	X	AS	X			
A-204	**Aircraft Capabilities & Limitations**			AS	X	X	X	X	X	X			
A-205	Risk Management-I		AS	AS	X	X	X	X	X	X	3		AS
A-206	Aviation Acquisition and Procurement				AS		X	X	X	X		X	
A-207	**Aircraft Flight Scheduling**						AS	X	AS	AS			
A-208	Aircraft and Pilot Approval								AS	X			AS
A-209	Helicopter Operations (+helo aircrew only)		AS+			X	X						
A-210	Helicopter Field Exercise (+helo aircrew only)		AS+			AS	AS						
A-211	Project Aviation Plans						R3		X	X	AS		
A-212	Aircraft Rental Agreement/Blanket Purchase Agreement				X	X	X	X	X	X		X	AS
A-216	Aviation Operations Security					X			X				
A-218	Aircraft Pre-Use Inspection				X		X	AS	AS	X		X	
A-219	Helicopter Transport of External Cargo		AS				AS		AS				
A-220	Train-The-Trainer	See Part 4 of the IAT program document.											
A-221	Advanced Trainer Competency	See Part 4 of the IAT program document.											
A-222	Interagency Aviation Trainer Competency	See Part 4 of the IAT program document.											
A-223	Water Ditching and Survival Train-The-Trainer	See Part 4 of the IAT program document.											
A-300	Aviation Lessons Learned						R3			3			
A-301	Implementing Aviation Safety & Accident Prevention				AS				X	X			
A-302	Personal Responsibility & Liability		AS		X		R3	AS	X	X	3	X	AS
A-303	Human Factors in Aviation		AS		X		R3	X	AS	X	3		
A-304	Aircraft Maintenance						X					X	
A-305	Risk Management-II				AS	AS	X	X	X	X	3		
A-306	Aviation Contract Administration Parts I & II						3			X		3	
A-307	Aviation Policy and Regulations-II				AS		R3	X	X	X	3		
A-308	Aviation Policy and Regulations-III								AS	X			
A-309	Helicopter Flight Manuals						R3						
A-310	Overview of Crew Resource Management		AS		X	AS	R3	AS	X	AS			
A-311	Unit Aviation Planning									X			
A-312	Water Ditching and Survival** (beyond power-off gliding)		AS		AS	AS	AS						AS
A-314	Aviation Program Overview/FS Agency Administrators												
A-316	Aviation Facility Security Training									X	X		X
A-401	Management of Aviation Safety Programs							AS	AS	AS			
A-403	Human Factors for Aviation Managers				AS		AS	AS	AS	AS			
A-410	Crew Resource Management (needs description)				AS		AS						
	Mission-Specific Training as Required by Agency		AS		AS		AS		AS	AS			

*_Interagency Aviation User Pocket Guide_ (NFES 1373--Preflight briefing required by pilot).
**For those who fly beyond power-off gliding distance from shore.
AS=When specified by DOI bureaus or U.S. Forest Service.
R3=Required refresher triennial training.

X=requires completion once.
1=Requires completion every year.
2=Requires completion every 2 years.
3=Requires completion every 3 years.

SAFECOM

Safety Communiqué Form

OAS-34 / FS 5700-14

SAFECOM Aviation Safety Communique'	REPORTED BY: (optional)
	Name: E-Mail: Phone: Cell Phone: Pager: Organization: Organization Other: Date Submitted: mm/dd/yyyy

EVENT			
Date: mm/dd/yyyy	Local Time: hhmm	Injuries: Y/N	Damage: Y/N
State:	Location: (Airport, City, Lat/Long or Fire Name)		

Operational Control:
Agency:
Region:
Unit:

MISSION (* see look-up tables)		
Type: *	Other:	
Procurement: *	Other:	
Persons Onboard:	Special Use: Y/N	Hazardous Materials: Y/N
Departure Point:	Destination	

AIRCRAFT (* see look-up tables)			
Type: *	Tail #	Manufacturer: *	Model:
Owner/Operator:		Pilot:	

NARRATIVE: (A brief explanation of the event)

CORRECTIVE ACTION: (What was done to correct the problem)

SAFECOM FORM INSTRUCTIONS

The Aviation Safety Communique (SAFECOM) database fulfills the Aviation Mishap Information System (AMIS) requirements for aviation mishap reporting for the Department of Interior agencies and the US Forest Service. Categories of reports include incidents, hazards, maintenance, and airspace. The system uses the SAFECOM Form OAS-34 or FS-5700-14 to report any condition, observation, act, maintenance problem, or circumstance with personnel or aircraft that has the potential to cause an aviation-related mishap. The SAFECOM system is **not** intended for initiating punitive actions. Submitting a SAFECOM is **not** a substitute for "on-the-spot" correction(s) to a safety concern. It is a tool used to identify, document, track and correct safety related issues. A SAFECOM does not replace the requirement for initiating an accident or incident report.

These instructions and helpful hints are intended to make the process of submitting a SAFECOM as easy as possible. If you need assistance, please don't hesitate to call the Forest Service at (208) 387-5285 or the Aviation Management Directorate, Aviation Safety (formerly OAS) at (208) 433-5070. After the completion and submission of your SAFECOM, your data will be stored in a central database that is shared on an interagency basis. Therefore, you only have to submit one SAFECOM per event.

The **REPORTED BY** section is associated with the person submitting the SAFECOM. All of these fields are optional. However, this contact information is extremely helpful if it becomes necessary to follow-up with the submitter on a particular issue. This section asks for the name of the person reporting the event, their contact information and the organization they work for. If you choose to submit your name or any other information in this section, it will not appear on the SAFECOM that is available to the general public.

The **EVENT** section asks for the "when" and "where" in addition to damage or injuries. Enter the **Date** in the **mm/dd/yyyy** format, and then enter the **Time** using the 24-hour time format **hhmm**. Note that the date is a required field and both the date and time fields will only accept numeric characters. Were there any **Injuries**? Yes or No. If you select **Yes**, please explain in the narrative. Was there any **Damage**? Yes or No. If you select **Yes**, please explain in the narrative. The next field in this section is the **State**, which applies to the state where the event occurred. Note that the **State** field is a required entry. In the **Location** field enter the airport, name of the fire or lat and long. The next three selections identify the Agency, Region or State for USDI and the Unit that had operational control of the mission at the time of the event. These selections determine which organization(s) will receive initial notification that a SAFECOM has been entered into the database. From the look-up table select the **Agency**. From the next look-up table select the **Region** for USFS or **State** for USDI. Next, select the **Unit** from the look-up table if it applies. See examples below:

Agency: Bureau of Land Mgt	**Region**: Alaska State Office	**Unit**: Glennallen FO
Agency: Forest Service	**Region**: Region 2	**Unit**: San Juan NF

The **MISSION** section asks for information that describes the mission at the time of the event. In the **Type** field, use the look-up table to make a selection that best describes the mission that was being performed. Use the **Other** field if you need to further identify the mission or if nothing is available from the look-up table that actually describes the mission. In the **Procurement** Field, enter how the aircraft you were utilizing was procured from the look-up table. Use the **Other** field to further identify procurement if necessary. Under Persons

Onboard, enter the total number of people on the aircraft, which includes the pilot(s), all flight crew personnel and passengers. Was the mission **Special Use**, Yes or No? Many of our missions are special use. In fact, almost all fire missions are considered special use as well as animal counting, herding, eradication, etc. Were there **Hazardous Materials** onboard, Yes or No? In **Departure Point**, enter where you departed from, an airport or helibase for example and under **Destination**, enter the intended destination, which could be an airport, fire name or helispot.

The **AIRCRAFT** Section generally applies to the aircraft you are utilizing. However, in the event of an airspace intrusion, conflict or near mid-air, enter as much information as possible about the other aircraft. If there are multiple aircraft involved, list the other aircraft in the narrative section. In the **Type** field, enter the aircraft type from the look-up table. In the **Tail #** field enter the tail number of the aircraft beginning with N for US Registered and C for Canadian Registered aircraft. Please do not enter the Tanker, Jumper or Helicopter number unless that is all you have. In the **Manufacturer** field, select the manufacturer from the look-up table. In the **Model** field, enter the model number without any spaces or hyphens for example, 206L3, DC6, PB4Y2. In the **Owner/Operator field**, enter the name of the agency if the aircraft is an agency fleet aircraft (ie USFS, USDI, etc) or the name of the vendor operating the aircraft if it is contracted. In the **Pilot** field enter the pilot's name, first name then last name.

In the **NARRATIVE** section give a brief description of the event with the facts and outcome of the event. Elaborate on any previous blocks above as necessary.

In the **CORRECTIVE ACTION** section give a brief description of the corrective action that was taken in an effort to prevent the event from reoccurring. Remember, submitting a SAFECOM is not a substitute for resolving the problem and taking on the spot corrective action. SAFECOMS are for tracking and trending purposes.

Accidents and Incidents-With-Potential (IWP) must be reported immediately via the most expeditious method in accordance with the Interagency Aviation Mishap Response Plan. A SAFECOM should be completed later, but it is not to be used as an initial notification method.

The SAFECOM should be routed through the local unit aviation officer or can be faxed to Aviation Management Directorate, Aviation Safety at (208) 433-5007 or USFS at (208) 387-5735 ATTN: SAFETY or entered directly on the internet at www.safecom.gov

MISSION – TYPE

Accident Investigation
Aerial Photography
Air Quality Monitoring
Cargo Letdown (Non-Fire)
Cargo Transport (Internal) (Non-Fire)
External Load (Belly Hook)
External Load (Longline)
Ferry/Repositioning Flight (Non-Fire)
Fire, Aerial Ignition
Fire, Aerial Ignition (Prescribed)
Fire, Air-Attack
Fire, Air-Attack (Prescribed)
Fire, Cargo Letdown
Fire, Cargo Transport (Internal)
Fire, Detection
Fire, External Load (Belly Hook)
Fire, External Load (Longline)
Fire, Ferry/Repositioning Flight
Fire, Helitack
Fire, Helitorch
Fire, Infrared Imagery
Fire, Initial Attack
Fire, Leadplane
Fire, Leadplane (Prescribed)
Fire, Medevac
Fire, Other
Fire, Paracargo
Fire, Passenger Transport
Fire, Ping-Pong Ball
Fire, Rappel
Fire, Reconnaissance
Fire, Retardant Drop (Airtanker)
Fire, Retardant Drop (Helicopter)
Fire, Retardant Drop (SEAT)
Fire, Smokejumper
Fire, Water Drop (Fixed-Wing)
Fire, Water Drop (Helicopter Bucket)
Fire, Water Drop (Helicopter Fixed-Tank)
Inspection (Aircraft)
Inspection (Pilot Evaluation)
Inspection (Unit)
Law Enforcement
Maintenance Test Flight
Medivac
Paracargo (Non-Fire)
Passenger Transport (Non-Fire)
Pipeline Patrol
Powerline Patrol
Rappel (Non-Fire)
Reconnaissance
Reconnaissance (Non-Fire)
Research
Search/Rescue
Seeding/Fertilization
Short Haul
Snow Survey
Spraying
Survey/Observation (Non-Fire)
Survey/ Forest Health Protection (Non-Fire)
Training (Aircrew)
Training (Helitack)
Training (Law Enforcement)
Training (Other)
Training (Pilot)
Training (Rappel)
Training (Smokejumper)
Wildlife/Animal Capturing
Wildlife/Animal Counting
Wildlife/Animal Eradication
Wildlife/Animal Herding
Wildlife/Animal Survey
Wildlife/Animal Tagging
Wildlife/Animal Tracking

MISSION – PROCUREMENT

Cooperator
CWN (Call When Needed)
End Product Contract
Exclusive Use Contract
Fleet
Military
Rental
Other/Unknown

AIRCRAFT - TYPE

Airplane
Airtanker (Multi-engine)
Airtanker (SEAT)
Helicopter